SAMSUNG

Instruction Manual

DVD-R150

DVD RAM/RW/R DVD VIDEO COMPACT DISC DIGITAL AUDIO

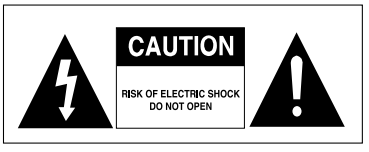
www.samsung.com

English Español

AK68-01431A-00

Warning

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER(OR BACK).
NO USER-SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Do not install this equipment in a confined space such as a bookcase or similar unit.

WARNING : To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

CAUTION : DVD RECORDERS USE AN INVISIBLE LASER BEAM WHICH CAN CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED.
BE SURE TO OPERATE THE RECORDER CORRECTLY AS INSTRUCTED.

CAUTION
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTIONS
Caution: To prevent electric shock, match wide blade of plug to wide slot, fully insert.
Attention: Pour éviter les chocs électriques, introduíre la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu au fond.
This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances, such as radios and televisions, use shielded cables and connectors for connections.

FCC NOTE (for U.S.A):

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: FCC regulations state that any unauthorized changes or modifications to this equipment may void the user's authority to operate it.

NOTE

- This unit can be used only where the power supply is AC 110-240V, 50/60Hz. It cannot be used elsewhere.
- This DVD Recorder is designed and manufactured to respond to the Region Management Information.
  If the Region number of a DVD disc does not correspond to the Region number of this DVD Recorder, the DVD Recorder cannot play the disc.
- This device is protected by U.S. Patent Nos.4,631,603;4,577,216;4,819,098;4,907,093; and 6,516,132.This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights.Use of this copyright protection technology must be authorized by Macrovision,and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision.Reverse engineering or disassembly is prohibited.

DANGER	– VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION	– VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ATTENTION	– RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL	– SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO !	– AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	– SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	– SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	– SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注意	– 打开时有可见及不可见激光辐射. 避免激光束照射.
注意	– ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見たり、触れたりしないでください。

Precaution

Important Safety Instructions

Read these operating instructions carefully before using the unit. Follow all the safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with a dry cloth.
7) Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding- type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Service is required when the apparatus has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, Service is also required if the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Handling Cautions

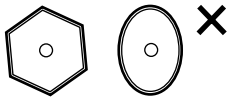
- Before connecting other components to this recorder, be sure to turn them all off.
- Do not move the recorder while a disc is being played, or the disc may be scratched or broken, and the recorder's internal parts may be damaged.
- Do not put a flower vase filled with water or any small metal objects on the recorder.
- Be careful not to put your hand into the disc tray.
- Do not place anything other than the disc in the disc tray.
- Exterior interference such as lightning and static electricity can affect normal operation of this recorder. If this occurs, turn the recorder off and on again with the POWER button, or disconnect and then reconnect the AC power cord to the AC power outlet. The recorder will operate normally.
- Be sure to remove the disc and turn off the recorder after use.
- Disconnect the AC power cord from the AC outlet when you don't intend to use the recorder for long periods of time.
- Clean the disc by wiping in a straight line from the inside to the outside of the disc.
- Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
- The Mains plug is used as a disconnect device and shall stay readily operable at any time.

Maintenance of Cabinet

For safety reasons, be sure to disconnect the AC power cord from the AC outlet.

- Do not use benzene, thinner, or other solvents for cleaning.
- Wipe the cabinet with a soft cloth.

Disc Handling



- Use discs with regular shapes. If an irregular disc (a disc with a special shape) is used, this DVD Recorder may be damaged.

Holding discs

- Avoid touching the surface of a disc where recording is performed.

DVD-RAM, DVD-RW and DVD-R

- Clean with an optional DVD-RAM/PD disc cleaner . Do not use cleaners or cloths for CDs to clean DVD-RAM/DVD-RW/DVD-R discs.

DVD-Video, CD

- Wipe off dirt or contamination on the disc with a soft cloth.

Cautions on handling discs

- Do not write on the printed side with a ball-point pen or pencil.
- Do not use record cleaning sprays or antistatic. Also, do not use volatile chemicals, such as benzene or thinner.
- Do not apply labels or stickers to discs. (Do not use discs fixed with exposed tape adhesive or leftover peeled-off stickers.)
- Do not use scratch-proof protectors or covers.
- Do not use discs printed with label printers available on the market.
- Do not load warped or cracked discs.

Disc Storage

Be careful not to damage the disc because the data on these discs are highly vulnerable to the environment.
- Do not keep under direct sunlight.
- Keep in a cool ventilated area.
- Store vertically.
- Keep in a clean protection jacket.
- If you move your DVD Recorder suddenly from a cold place to a warm place, condensation may generate on the operating parts including the lens and cause abnormal disc playback. When this occurs, do not connect the plug to the power outlet. Wait for two hours, then insert the disc and try to playback again. It will work properly when condensation has evaporated.

Disc Specifications

DVD-Video

- A digital versatile disc (DVD) can contain up to 135-minutes of images, 8-language audio and 32 subtitle languages. It is equipped with MPEG-2 picture compression and Dolby 3D surround sound, allowing you to enjoy vivid and clear theater quality images in the comfort of your own home.
- When switching from the first layer to the second layer of a double-layered DVD Video disc, there may be momentary distortion in the image and sound. This is not a malfunction of the unit.
- Once a DVD-R/DVD-RW(V) recorded is finalized, it is playable in a standard DVD player.

Audio CD

- An audio disc on which 44.1kHz PCM Audio is recorded
- Plays CD-DA format audio CD-R and CD-RW discs. The unit may not be able to play some CD-R or CD-RW discs due to the condition of the recording.

CD-R/-RW

MP3 CD-R/-RW

- Only CD-R discs with MP3 files recorded with ISO9660 or JOLIET format can be played back
- Only MP3 files with the ".mp3", ".MP3" extension can be used.
- For MP3 files recorded with a VBR(Variable Bit Rates), from 32 Kbps to 320 Kbps, the sound may cut in out.
- Playable bitrate range is from 56Kbps to 320Kbps.
- The unit can handle a maximum of 1000 files and folders.
- DVD-RAM/DVD±RW/DVD±R disc recorded with MP3 files can be played back.

JPEG CD-R/-RW

- Only JPEG files with the ".jpg", ".JPG" extension can be used.
- The unit can handle a maximum of 1000 files and folders.
- Maximum size of progressive JPEG is 3M pixels.
- MOTION JPEG is not supported.
- DVD-RAM/±RW/±R discs that contain JPEG files can be played back.

Using MPEG4 disc

- Disc : CD-R/-RW, DVD-RAM, DVD±R/ DVD±RW,
- MPEG4 File with following extensions can be played. : .avi, .divx, .AVI, .DIVX
- MPEG4 Codec format : DivX 3.11 DivX 4.x DivX 5.x
- Available Audio Format : “MP3”, “MPEG”,“PCM”, “AC3”, “DTS”
- Supported subtitle file formats: .smi, .srt, .sub, .psb,.txt

Using CD-R/-RW

- Use a 700MB(80 minutes) CD-R/-RW disc. If possible, do not use a 800MB(90 minutes) or above disc, as the disc may not play back.
- If the CD-R/-RW disc was not recorded as a closed session, you may experience a delay in the early playback time, and all recorded files may not play.
- Some CD-R/-RW discs may not be playable with this unit, depending on the device which was used to burn them.
- When recording from CDs for your personal use to CD-R/-RW discs, playability may vary depending on the contents and discs.

DVD-R Disc Playback and Recording

- Once a DVD-R recorded is finalized, it is playable in a standard DVD player. You can record onto the available space on the disc and perform editing functions such as giving titles to discs and programs and erasing programs before finalizing.
- When programming is erased from a DVD-R, that space does not become available. Once an area on a DVD-R is recorded on, that area is no longer available for recording, whether the recording is erased or not.
- It takes about 30 seconds for the unit to complete recording management information after recording finishes.
- This product optimizes the DVD-R for each recording. Optimization occurs when you start recording after inserting the disc or turning on the unit. Recording onto the disc may become impossible if optimization is carried out too many times.
- Playback may be impossible in some cases due to the condition of recording.
- This unit can play back DVD-R discs recorded and finalized with a Samsung DVD video recorder. It may not be able to play some DVD-R discs depending on the disc and the condition of the recording.

DVD-RW Disc Playback and Recording

- Recording and playback can be performed on DVD-RW discs in both the Video and VR Modes.
- Once a DVD-RW is recorded in VR or Video mode is finalized, you cannot perform additional recording.
- Once a DVD-RW is recorded in Video Mode and

finalized, it becomes a DVD-Video.
- In both modes, playback can be performed before and after finalization, but additional recording, deleting and editing can not be performed after finalization.
- If you want to record the disc in VR Mode and then record in V Mode, be sure to first reformat the disc. Please be aware that formatting may erase all of the discs content.
- When inserting an unused disc, a message will appear asking whether to initialize the disc or not. If you select "Yes", the disc will be formatted in VR mode.
- **DVD-RW (VR mode)**
  - This is a format that is used for recording data on a DVD-RW disc. You can record multiple titles, edit, delete, partial delete, create a playlist, etc.
  - A disc that is recorded in this mode will not play in standard DVD players.
- **DVD-RW (Video mode)**
  - This is a format that is used for recording data on a DVD-RW or DVD-R disc. The disc can be played by an existing DVD player once it has been finalized.
  - If a disc that has been recorded in Video Mode by a different maker's recorder but has not been finalized, it cannot be played or recorded by this recorder.

DVD-RAM Disc Playback and Recording

- For cartridge type DVD-RAM discs, remove the cartridge and use only the disc.
- Ensure that the recording mode is set to VR mode. Otherwise, this product will not be able to play the recording.
- You cannot play a DVD-RAM in most DVD players due to compatibility issues.
- Only DVD-RAM standard Version 2.0 discs can be played in this unit.
- DVD-RAM discs recorded on this unit may not work with other DVD Players. To determine compatibility with these DVD-RAM discs, refer to the user's manual for the player.

COPY PROTECTION

- Many DVD discs are encoded with copy protection. Because of this, you should only connect your DVD Recorder directly to your TV, not to a VCR.
  Connecting your recorder to a VCR results in a distorted picture from copy-protected DVD discs.
- This product incorporates copyright protection technology that is protected by methods claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation.
  Reverse engineering or disassembly is prohibited.

Protection

This DVD Recorder can allow you to protect the contents of your discs, as described below.

- Program-protection: See page 62 "Locking a Title"
- Disc-protection: See page 69 "Disc Protection"

✻ DVD-RAM/DVD-RW/DVD-R discs that are incompatible with the DVD-VIDEO format cannot be played with this product.

✻ For more information on DVD recording compatibility, consult your DVD-RAM/DVD-RW/DVD-R manufacturer.

✻ Use of poor quality DVD-RAM/DVD-RW/DVD-R discs may cause the following unexpected problems including recording failure, loss of recorded or edited materials or damage to the recorder.

Do not use the following discs!

- LD, CD-G, CD-I, CD-ROM and DVD-ROM discs should not be used in this product.
- Some commercial discs and DVD discs purchased outside your region may not be playable with this product. When these discs are played, either "No Disc." or "The disc cannot be played. Please check the regional code of the disc." will be displayed.
- If your DVD-RAM/DVD-RW/DVD-R disc is an illegal copy or is not in DVD video format, it may also not be playable.

Disc compatibility

- Not all brands of discs will be compatible with this unit.
- The latest firmware upgrade to improve recording & playback quality can be downloaded from our web site. (Download Center at www.samsung.com)
- If disc compatibility problems continue, or there is an issue upgrading your recorder, contact Samsung customer care center (see page 78)

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General Features

The DVD-R150 allows you to record and play high quality digital video on DVD-RAM/DVD-RW/DVD-R discs.

High quality digital audio and video recording and playback

You can record up to approximately 16-hours of video on a double side 9.4 GB DVD-RAM disc,up to 15-hours on a dual-layer 8.5GB DVD-R disc, and up to 8-hours on a 4.7 GB DVD-RAM/DVD-RW/DVD-R disc, depending on the recording mode.

Selectable Record Mode

You can set your recorder to one of five different recording speeds, each varying in recording quality and length. EP mode yields the most recording time, LP & SP modes provide less recording time with higher quality recording, and XP mode gives you the highest quality recording. There's also the FR (Flexible Recording) mode that lets you record with the best picture quality possible for the recording time and remaining space on the disc in timer recording.

Automated Quality Adjustment for Timer Recording

If FR mode is selected, the video quality is adjusted automatically so that all video for the scheduled time can be recorded onto the free disc space. (See page 44)

Create a DVD video title using a DVD-RW/DVD-R disc

With the DVD-R150, you can create your own DVD video title on 4.7 GB DVD-RW/DVD-R or 8.5GB DVD-R discs.

Copying data from a digital camcorder using a DV input jack

Record digital camcorder video onto DVD-RAM, DVD-RW or DVD-R discs using the DV input jack (IEEE 1394-4pin). (See page 42)

High quality progressive scan

Progressive scanning provides high resolution and flicker free video.
The 10-bit 54-MHz DAC and 2D Y/C Separating Circuitry provides the highest video playback and recording quality. (See page 19.)

A variety of functions with an easy-to-use user interface

The integrated menu system and the messaging function allows you to perform desired operations both easily and conveniently. With a DVD-RAM or DVD-RW (VR mode) disc, you can edit recorded images, create a playlist, and edit videos in a specific sequence according to your requirements.

MPEG4 playback

This DVD Recorder can play MPEG4 formats within an avi file.

DivX Certification

DivX, DivX Certified, and associated logos are trademarks of DivXNetworks, Inc and are used under license.

EZ REC MODE

This function allows you Initialize and Finalize a disc automatically. (see page 46)

Before Reading the Instruction Manual

Make sure to check the following before reading the user's manual.

Icons that will be used in manual

Icon	Term	Definition
DVD-VIDEO	DVD	This involves a function available with DVD or DVD-R/DVD-RW(V)/ +R discs that have been recorded and finalized.
DVD-RAM	RAM	This involves a function available with DVD-RAM discs.
DVD-RW	-RW	This involves a function available with DVD-RW discs.
DVD-R	-R	This involves a function available with DVD-R discs.
DVD+RW	+RW	This involves a function available with DVD+RW discs.
DVD+R	+R	This involves a function available with DVD+R discs.
CD	CD	This involves a function available with a data CD(CD-R or CD-RW).
JPEG	JPEG	This involves a function available with CD-R/-RW or DVD-RAM/ DVD±RW/DVD±R discs.
MP3	MP3	This involves a function available with CD-R/-RW or DVD-RAM/ DVD±RW/DVD±R discs.
MPEG4	MPEG4	This involves a function available with CD-R/-RW or DVD-RAM/ DVD±RW/DVD±R discs.
	Caution	This involves a case where a function does not operate or settings may be cancelled.
	NOTE	This involves tips or instructions on the page that help each function operate.
	One-Touch button	A function that can be operated by using only one button.
ANYKEY	ANYKEY button	A function that can be operated by using ANYKEY button.

About the use of this Instruction Manual

1) Be sure to be familiarize yourself with the Safety Instructions before using this product. (See pages2 ~5)
2) If a problem occurs, check the Troubleshooting section. (See pages 72~76)

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How to use the DVD Recorder

Step 1 Select the disc type

This unit can record on the following types of discs.
If you want to repeatedly record on the same disc or you want to edit the disc after recording, select a rewritable DVD-RW or DVD-RAM type disc.
If you want to save the recording without making any changes, choose a non-rewritable DVD-R.

DVD RAM DVD RW DVD R

Step 2 Format the disc to start recording

The recorder automatically starts formatting when an unused disc is inserted. This is required for the preparation of disc recording.

Using a DVD-RAM
This type of disc can be formatted in DVD-Video Recording format (VR mode). You can edit recorded video, create a playlist or edit video in a specific sequence according to your requirements.

Using a DVD-RW
- When an unused DVD-RW disc is first inserted, the message "Uninitialized Disc. Do you want to initialize this disc?" will be displayed.
  If you select Yes, initializing will begin. A DVD-RW disc can be formatted in either DVD-Video format (Video mode) or DVD-Video Recording format (VR mode)

Using a DVD-R
When using a DVD-R disc, only V mode recording is possible and no initialization is needed to play it on this recorder. However, finalization is necessary to play this disc on other DVD players.

NOTE
- You can only use either the VR or Video mode on a DVD-RW, but not both at the same time.
- You can format a DVD-RW to V or VR mode using disc manager.
  It should be noted that the disc's data will be lost when changing formats.

Step 3 Recording

There are two different recording methods, Direct Recording (recording a program you are currently watching) and Timer Recording. Timer recording is determined as a Date : MM/DD, MON-FRI, Every SAT, etc. There are 5 recording modes: XP (high quality mode), SP (standard quality mode), LP (long recording mode), EP (extended mode) and FR mode. When using FR mode to record, the picture quality is determined by the remaining time on the disc.

Step 4 Playing

To start playback select the title you want to play from the title list.
A DVD consists of sections called titles, and sub sections called chapters.
During recording, a title is created between two points where you start and stop recording. Chapters will be created automatically when you finalize recording on DVD-R/DVD-RW discs in Video mode.

Step 5 Editing a recorded disc

Editing a DVD disc is easier than editing on conventional video tapes. The recorder supports many different editing functions, possible only with DVDs.

With a simple and easy edit menu, you can perform various editing functions, such as delete, copy, rename, lock, etc., on a recorded title.

With this recorder, you can create playlists using a DVD-RAM/DVD-RW in VR mode. Once a playlist is created you can create/edit a new playlist on the same disc without changing the original recording.

Step 6 Finalizing & Playing on other DVD components

To play your DVD on other DVD components, finalizing may be necessary. First, finish all editing and recording operations, then finalize the disc.

When using a DVD-RW disc in VR Mode

Although finalizing is generally unnecessary when playing the disc on a VR Mode compatible component, a finalized disc should be used for playback.

When using a DVD-RW disc in Video Mode

The disc should be finalized first to enable playback on other DVD players. No more editing or recording can be made on the disc once it has been finalized.

When using a DVD-R disc

The disc should be finalized first to enable playback on other DVD players. No more editing or recording can be made on the disc once it has been finalized.

NOTE

- You can finalize automatically using the EZ REC MODE. (See page 46)

Unpacking

Accessories

Check for the supplied accessories below.

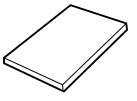
Video/Audio Cable
(AC39-00073A)

RF Cable for TV
(AC39-42001J)

Remote Control
(AK59-00061E)

EP-2 Plug Converter
(3721-000117)

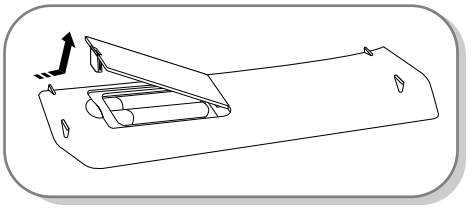
Batteries for Remote Control (AAA Size)
(AC43-12002H)


Instruction Manual
(AK68-01431A)

Preparing the Remote Control

Install Batteries in the Remote Control

- Open the battery cover on the back of the remote.
- Insert two AAA batteries.
  Make sure that the polarities (+ and -) are aligned correctly.
- Replace the battery cover.

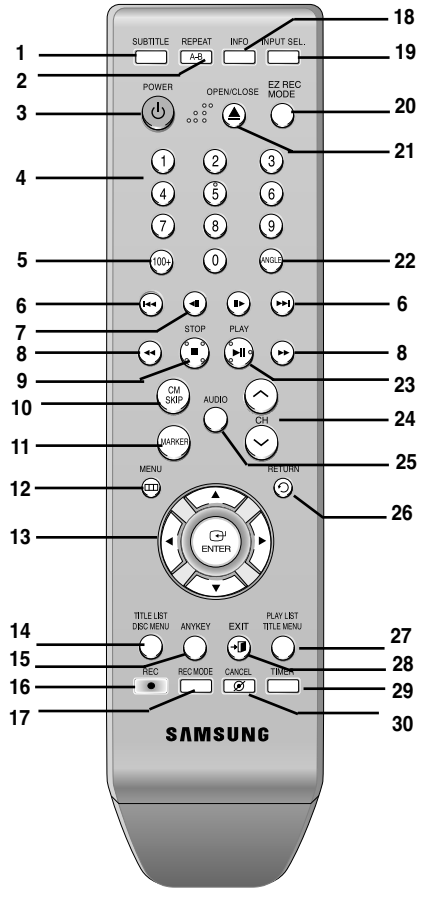


If the remote control does not operate properly:

- Check the polarity + - of the batteries .
- Check if the batteries are drained.
- Check if remote sensor is blocked by obstacles.
- Check if there is any fluorescent lighting nearby.

Dispose of batteries according to local environmental regulations.
Do not put them in the household trash.

Tour of the Remote Control



1. SUBTITLE Button
Press this to switch the DVD's subtitle language.

2. REPEAT(A-B) Button
Allows you to repeat playback of the A-B section.

3. POWER Button
Press to power the DVD Recorder on and off.

4. NUMBER Buttons

5. 100+ Button
Press this to select channel 100 or higher.

6. REVERSE/FORWARD SKIP Buttons
Press to skip a disc backwards or forwards.

7. REVERSE/FORWARD STEP Buttons
Press to play frame by frame.

8. REVERSE/FORWARD SEARCH Buttons
Press to search a disc backwards or forwards.

9. STOP Button
Press to stop a disc or to stop the recording.

10.CM SKIP Buttons
Press this to skip a portion of the program automatically during playback of a DVD disc.

11. MARKER Button
Use this to Bookmark or mark a position while playing a disc.

12. MENU Button
Brings up the DVD recorder's setup menu.

13. ENTER/DIRECTION Buttons
(UP/DOWN and LEFT/RIGHT Buttons)
This button functions as a toggle switch.

14. TITLE LIST/DISC MENU Button
Use this to enter the View Recording list/Disc menu.

15. ANYKEY Button
Use this to view the status of the disc that is being played.

16. REC Button
Use to make a recording on writable/rewritable discs.

17. REC MODE Button
Use this to set the desired Recording time and picture quality. (XP/SP/LP/EP)

18. INFO button
This will display current setting or disc status.

19. INPUT SEL. Button
Selects line input signal in external input mode. (Tuner, AV1, AV2 or DV)

20. EZ REC MODE Button
Use this to set the EZ REC MODE.

21. OPEN/CLOSE Button
To open and close the disc tray.

22. ANGLE Button
Press this to switch angles of a particular scene.

23. PLAY/PAUSE Button
Press to play/pause a disc.

24. CH Buttons
Use this to select a TV channel.

25. AUDIO Button
Use this to access various audio functions on a disc. (DVD mode)

26. RETURN Button
Returns to the previous menu.

27. PLAY LIST/TITLE MENU Button
Use this to return to the Title menu, or to view the recorded Playlist.

28. EXIT Button
Exit the current menu.

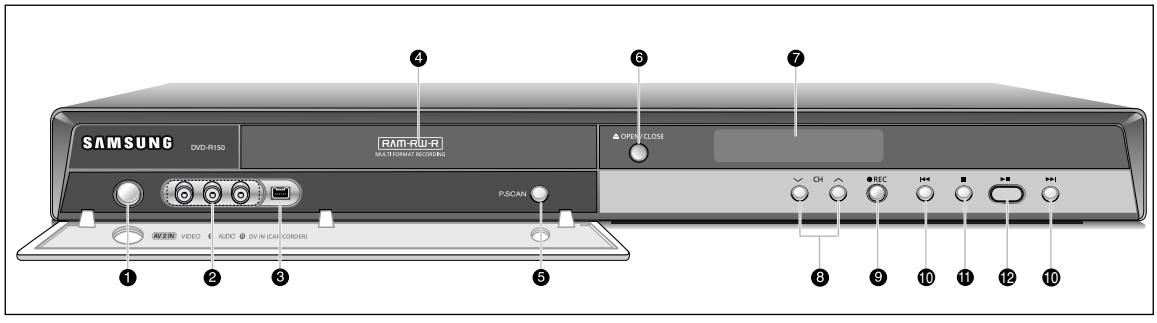
29. TIMER Button
Press to directly enter the Timer Recording Mode menu.

30. CANCEL Button

✻ This is a special remote control for the visually impaired, and has Braille points on the POWER ( ), STOP ( ) and PLAY ( ) buttons.

Description

Front panel



1. POWER Button
Turns the recorder on and off.

2. AV 2 IN
Connect external equipment.

3. DV-IN
Connects external digital equipment with a DV jack. (such as a camcorder)

4. DISC TRAY
Opens to accept a disc.

5. P.SCAN Button
Selects the progressive scan mode.

6. OPEN/CLOSE Button
Opens and closes the disc tray.

7. DISPLAY
Displays the playing status, time, etc.

8. CH (∨∧)
Select TV channels.

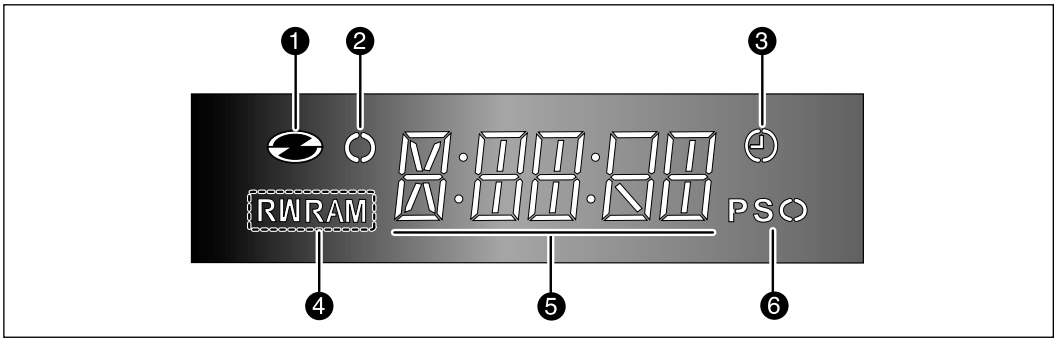
9. REC
Starts recording.

10. SKIP
Go to the next title/chapter/track, or go back to the previous title/chapter/track.

11. STOP
Stops disc playback.

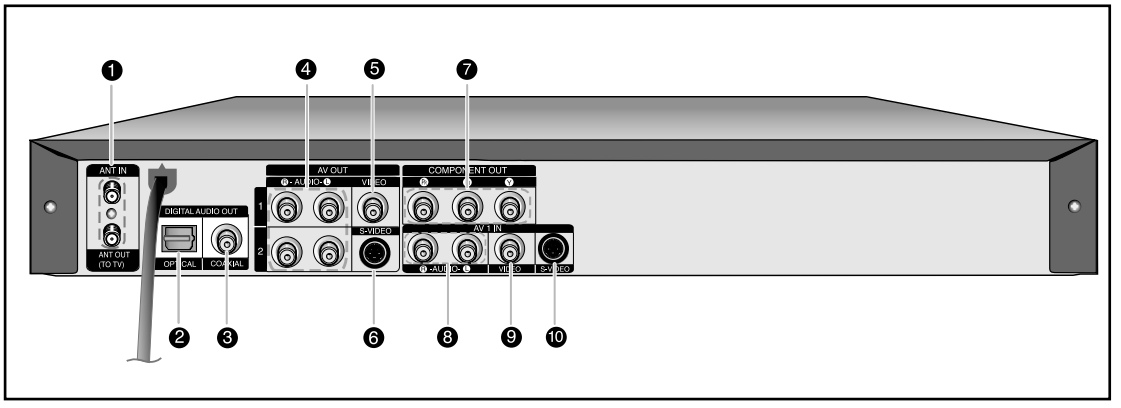
12. PLAY/PAUSE
Plays a disc or pauses playback.

Front Panel Display



1. Lights when a disc is loaded.
2. Lights in the record mode.
3. Lights to indicate the timer record mode.
4. Lights when a DVD-RAM/DVD±RW/DVD±R disc is loaded.
5. Alpha/Numeric display.
6. Lights in the progressive scan mode.

Rear Panel



1. ANT IN/ANT OUT (TO TV)
Connect antenna cables.

2. DIGITAL AUDIO OUT(OPTICAL)
Connects to an amplifier having a digital optical audio input jack.

3. DIGITAL AUDIO OUT(COAXIAL)
Connects to an amplifier having a digital coaxial audio input jack.

4. AV AUDIO OUT
Connects to the audio input of external equipment using audio cables.

5. AV VIDEO OUT(good video quality)
Connects the input of external equipment using a Video cable.

6. AV S-VIDEO OUT(better video quality)
Connects the input of external equipment using an S-Video cable.

7. COMPONENT VIDEO OUT(excellent video quality)
Connect to equipment having Component video input jacks.

8. AV 1 AUDIO IN
Connects the output of external equipment using audio cables

9. AV 1 VIDEO IN
Connects the output of external equipment using a video cable.

10. AV 1 S-VIDEO IN
Connects the output of external equipment using an S-Video cable.

NOTE

- The Antenna connection does not pass audio/video signals. To watch a DVD on your TV, you must connect audio/video cables.

Connecting & Setting Up

This section involves various methods of connecting the DVD Recorder to other external components and setting required initial modes.

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Step 1 : Connecting the Antenna Cable 16

Step 2 : Connecting the Video Cable.....19

Step 3 : Connecting the Audio Cable..... .22

Step 4 : Connecting External Devices.....25

Quick Overview

A Quick Overview presented in this guide will give you enough information to start using the recorder.

Step 1 : Connecting the Antenna Cable

▼

Step 2 : Connecting the Video Cable

▼

Step 3 :Connecting the Audio Cable

▼

Step 4 : Connecting External Devices

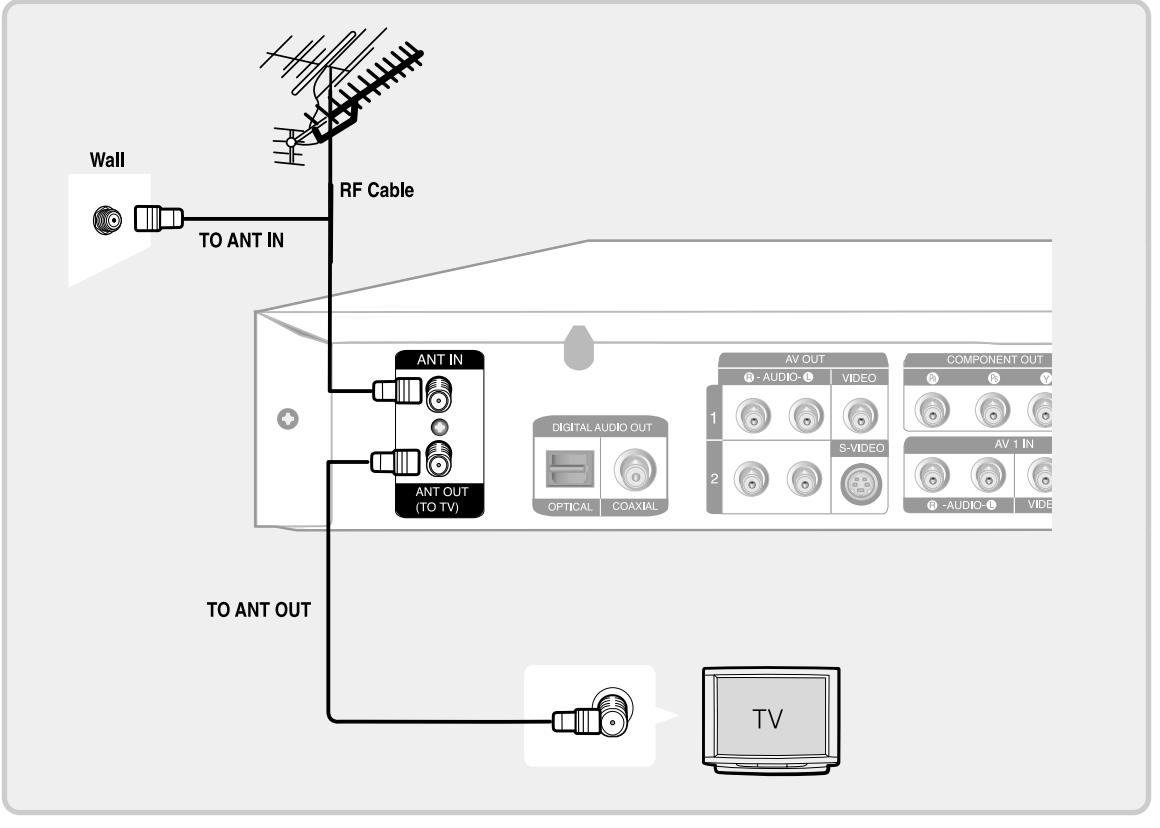
- **Note to CATV system installer**: : This reminder is provided to call CATV system installer's attention to Article 820-40 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part I), that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

Step 1: Connecting the Antenna Cable

There are several ways to connect your DVD Recorder. Select the antenna connection that best suits you below.

Antenna + DVD Recorder + TV : No Cable box

You can record non-scrambled channels by selecting the channel on the DVD Recorder. Also use this method if you watch channels without cable box.

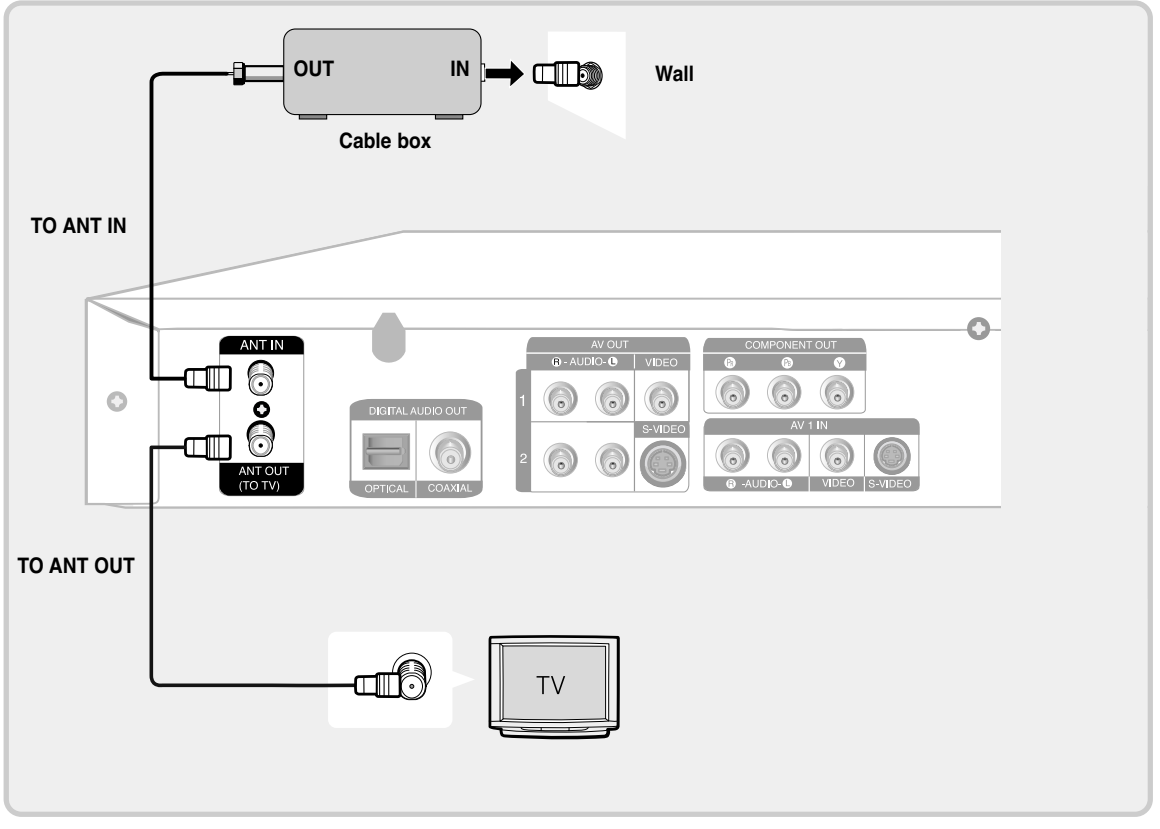


NOTE

- The VHF/UHF ANT (RF) OUT jack of this product sends only signals received through the antenna. It does not output Audio/Video signals. You must connect Audio/Video cables to view Video from the unit.
(i.e. DVD playback)

Antenna + Cable box + DVD Recorder + TV : Cable box with many scrambled channels

You can record channels by selecting the channel on the cable box. You cannot record one channel while watching another channel. Be sure that the cable box is turned on.

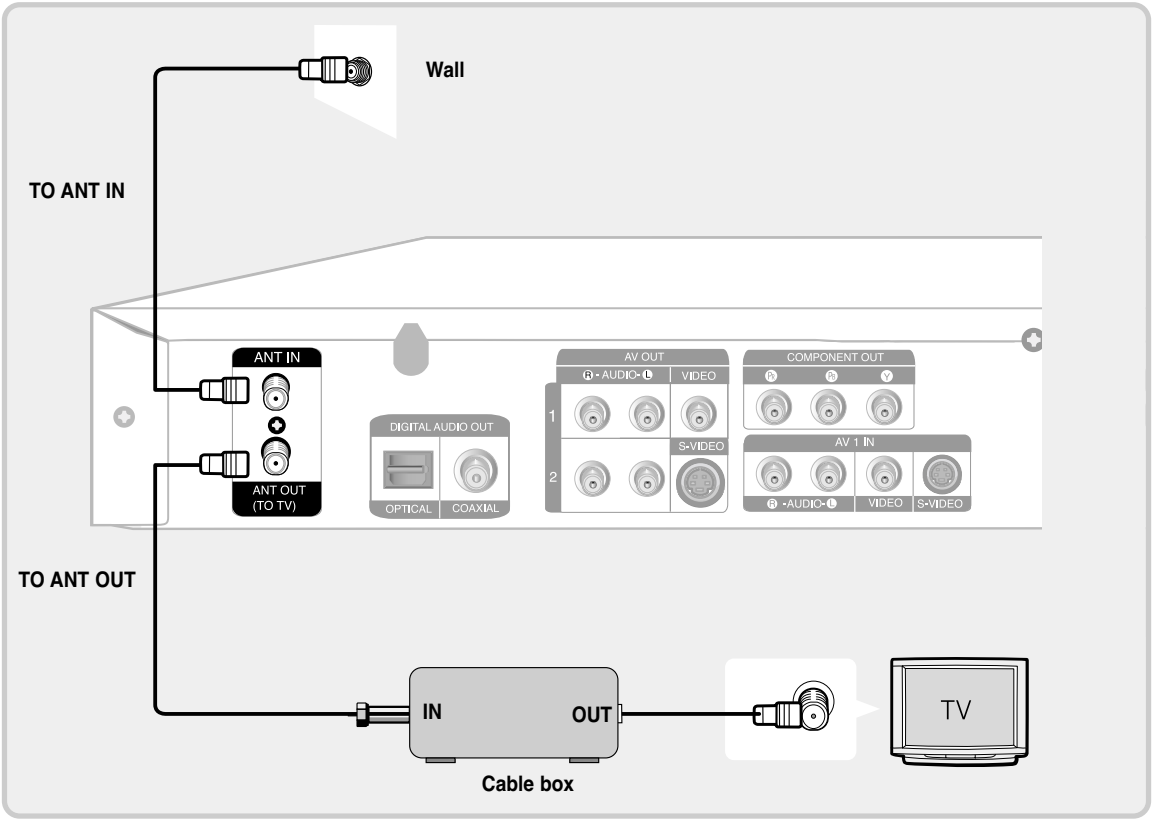


NOTE

- The VHF/UHF ANT (RF) OUT jack of this product sends only signals received through the antenna. It does not output Audio/Video signals. You must connect Audio/Video cables to view Video from the unit.
(i.e. DVD playback)

Antenna + DVD Recorder + Cable box + TV : Cable box with a few scrambled channels

You can record non-scrambled channels by selecting the channel on the DVD Recorder. You cannot record scrambled channels that require a cable box.



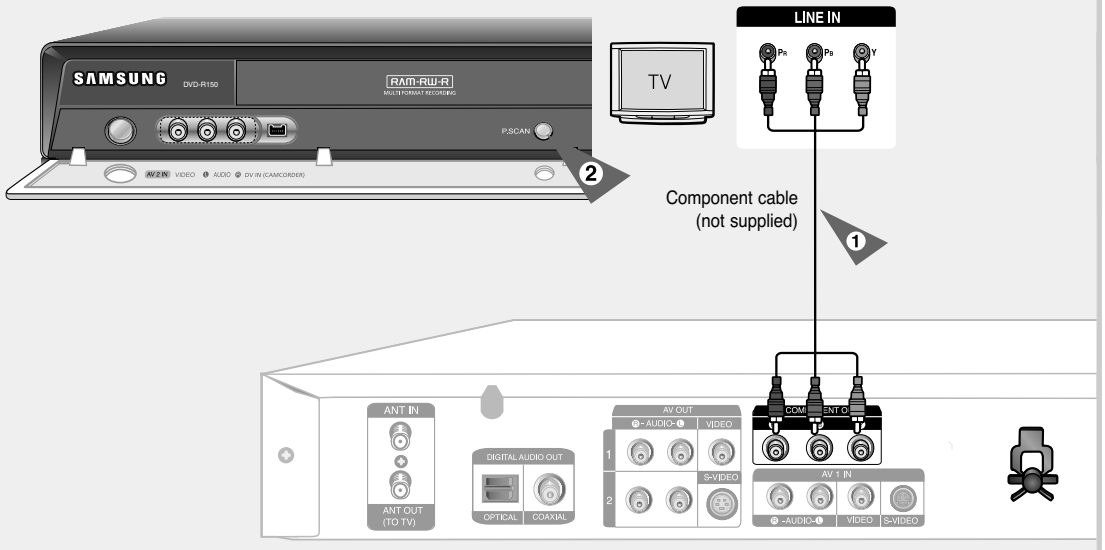
NOTE

- The VHF/UHF ANT (RF) OUT jack of this product sends only signals received through the antenna. It does not output Audio/Video signals. You must connect Audio/Video cables to view Video from the unit.
  (i.e. DVD playback)

Step 2 : Connecting the Video Cable

There are several ways to connect your DVD Recorder. Select one of the video connections on the following pages. The VHF/UHF RF OUT jack of this product sends only signals received through the antenna. It does not output audio/video signals. You must use one of the following audio/video connections on this unit.

Connecting to Component video input jacks (Y,PB,PR)



1. Connect Component video cables(not supplied) between the COMPONENT OUT(Y,PB,PR) jacks on DVD Recorder and COMPONENT IN(Y,PB,PR) jacks on your TV (or AV amplifier). This connection outputs the 480i or 480p resolution to your TV
2. If the connected TV supports Progressive Scan, press the P.SCAN button on the front of the DVD Recorder to enjoy best quality video.
   Pressing the **P.SCAN** button switches Progressive (480p) / Interlace (480i) scan mode on.

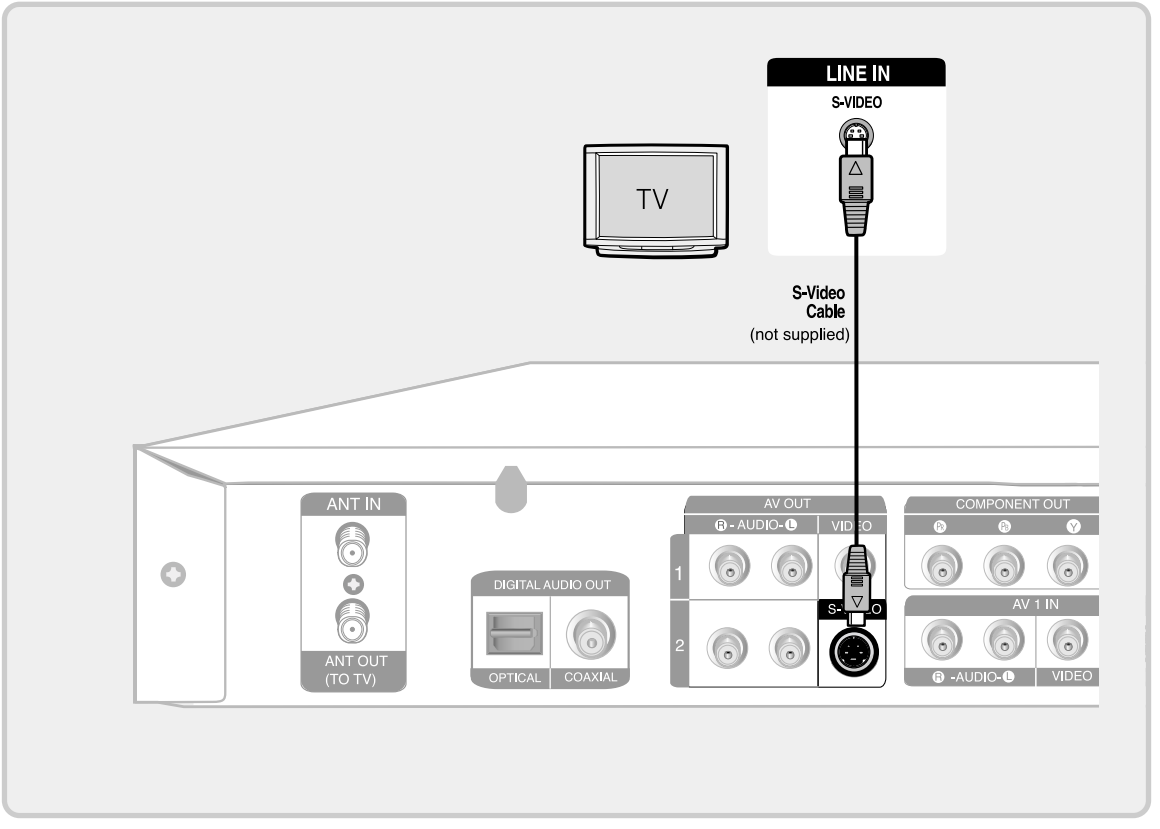
- You will enjoy the best quality accurate color reproduction images. Component video separates the picture element into black and white(Y), blue(PB), and red(PR) signals to present clear and clean images.
- Connect the audio cables(white and red) between the AUDIO OUT jacks on the DVD Recorder and AUDIO IN jacks on your TV(or AV amplifier).
  (See pages 22-24)

NOTE

- Compared to standard interlaced video, progressive scan doubles the amount of video lines fed to your TV, resulting in a clearer, more stable, and flicker free image than interlaced video. The component output jack of the DVD player can be used for progressive output mode, which is only available with TVs that support progressive scan.
- Progressive Scan Output (480p).
  Not all high definition television sets are fully compatible with this product. If the 480p progressive scan picture is not satisfactory, press the **P.SCAN** button on the unit to switch to the Interlace mode.
  If there are questions regarding TV set compatibility with this model, please contact our customer service center at 1-800-SAMSUNG.

Connecting to an S-Video input jack

Connect an S-Video cable(not supplied) between the S-VIDEO OUT jack on DVD Recorder and S-VIDEO IN jack on your TV (or AV amplifier).



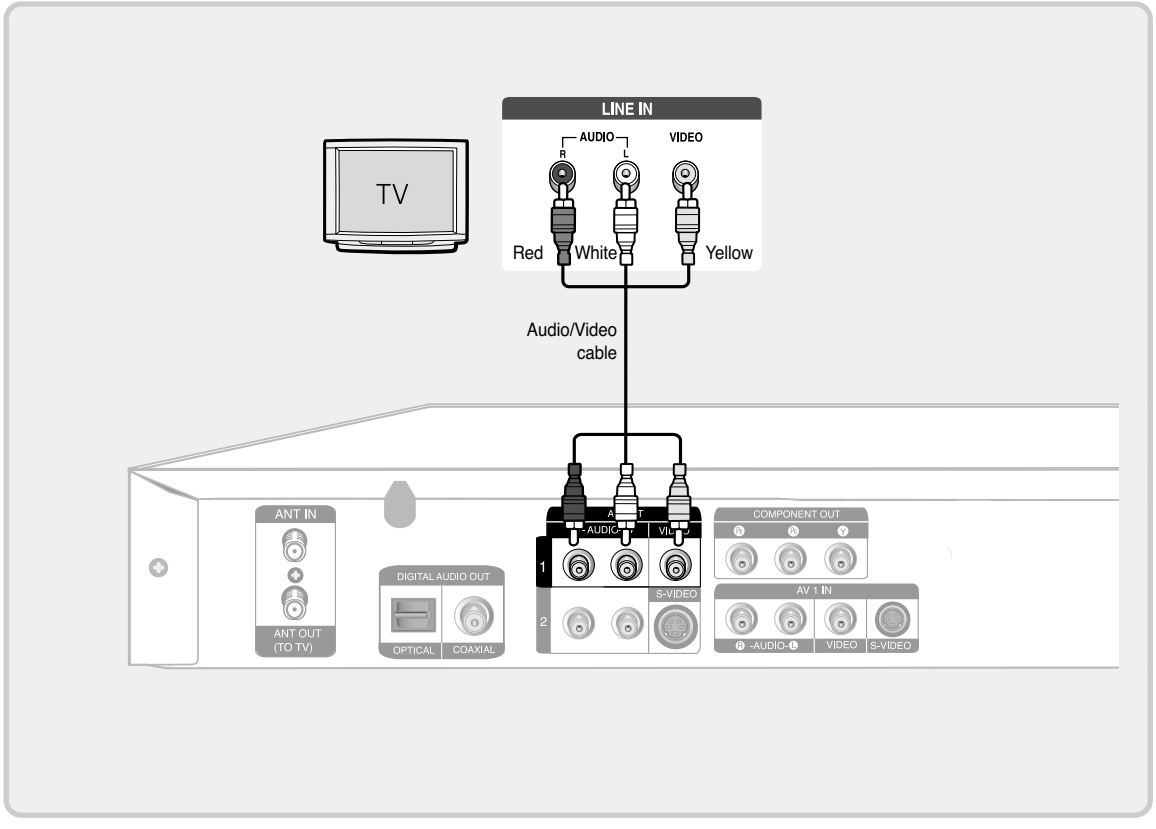
- You will enjoy high quality images. S-Video separates the picture element into black and white (Y) and color (C) signals to present clearer images than regular video input mode. This connection outputs the 480i resolution to your TV.
- Connect the audio cables(white and red) between the AUDIO OUT jacks on the DVD Recorder and AUDIO IN jacks on your TV(or AV amplifier).
(See pages 22-24)

NOTE

- S-Video or Component video outputs are available only if your TV supports S-Video input or Component video input, respectively. If S-Video or Component video output does not work, check your TV connections and the TV input selection settings.

Connecting to a Video input jack

Connect a video(yellow) cable between the VIDEO(yellow) OUT jack on DVD Recorder and VIDEO(yellow) IN jack on the TV (or AV amplifier).



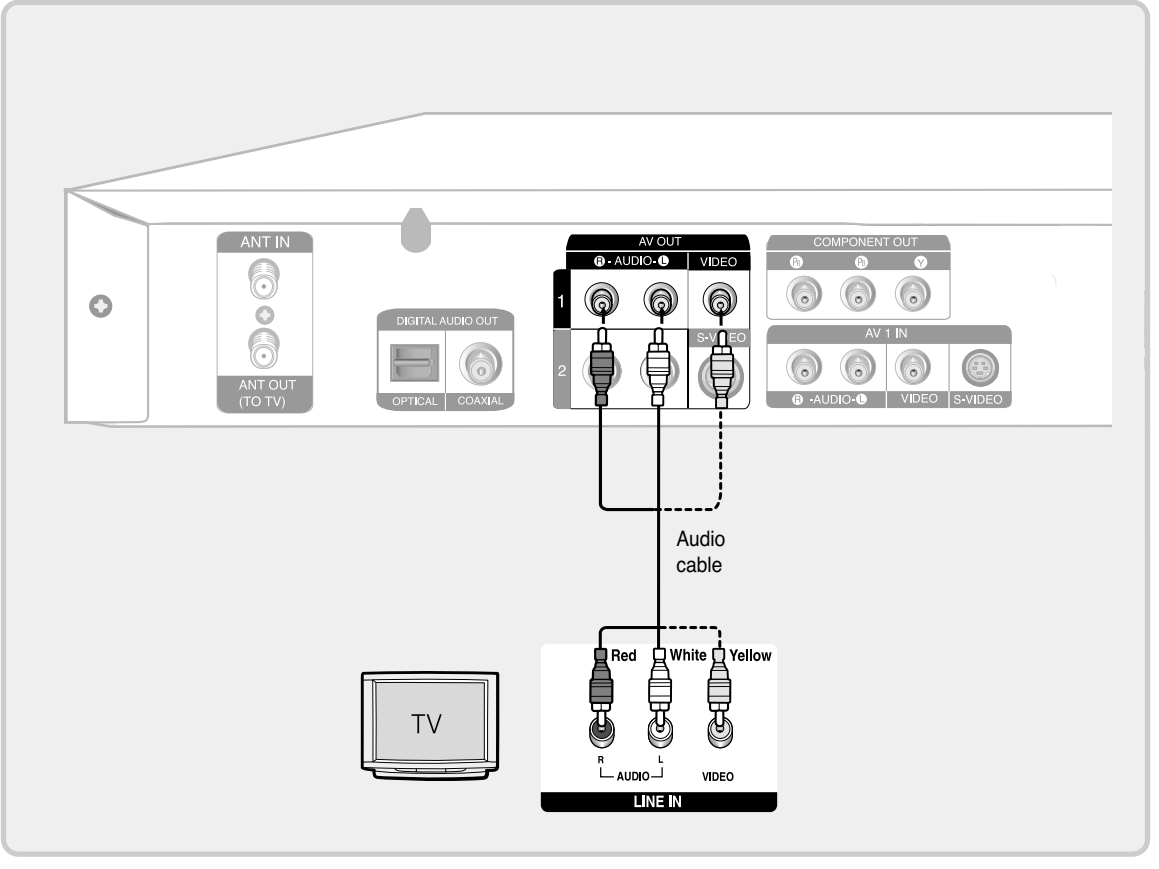
- You will enjoy normal quality images.This connection outputs the 480i resolution to your TV.
- Connect the audio cables(white and red) between the AUDIO OUT jacks on the DVD Recorder and AUDIO IN jacks on your TV(or AV amplifier).
  (See pages 22-24)

Step 3 : Connecting the Audio Cable

Select one of the Audio connections on the following pages.

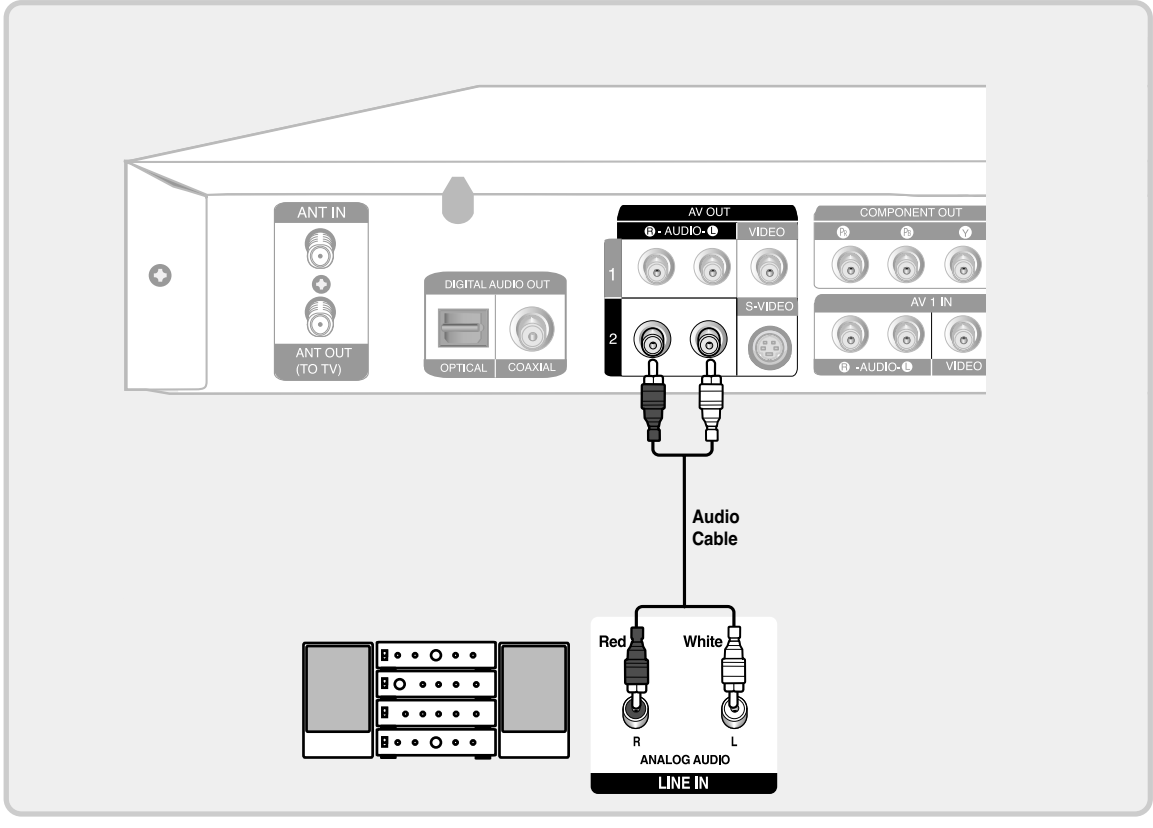
Connecting to your TV

This connection will use your TV's speakers.



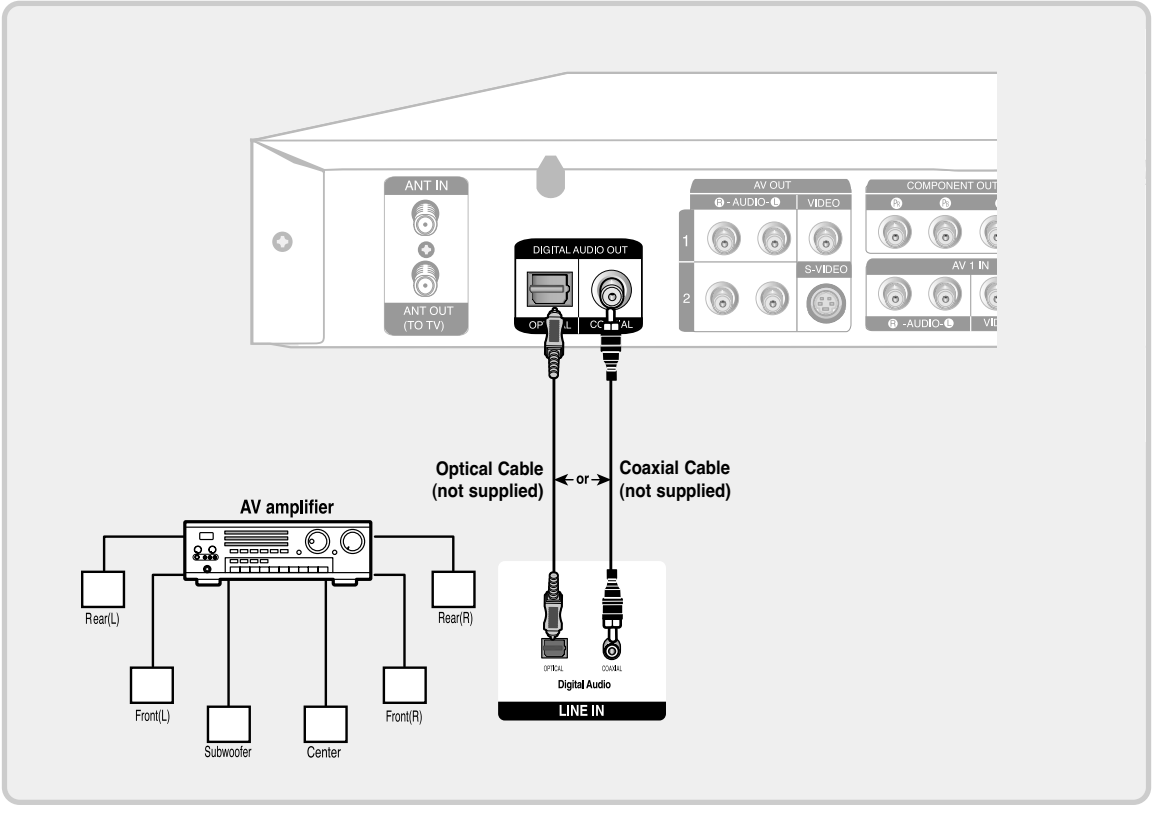
Connecting to a Stereo Amplifier with Analog Input Jacks

If your stereo amplifier only has AUDIO INPUT jacks(L and R), use the AUDIO OUT jacks.



Connecting to an AV Amplifier with a Digital Input Jack

If your AV amplifier has a Dolby Digital or DTS decoder and a digital input jack, use this connection. To enjoy Dolby Digital or DTS sound, you will need to set up the audio settings. (See page 33)



Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

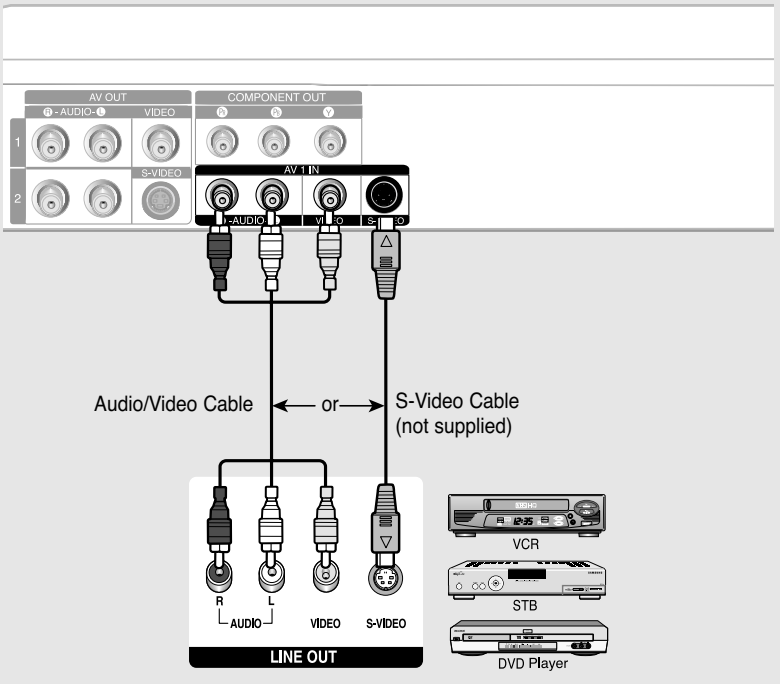
“DTS” and “DTS Digital Out” are trademarks of DTS, Inc.

Step 4 : Connecting External Devices

This allows you to connect your DVD Recorder to other external devices and view or record their outputs.

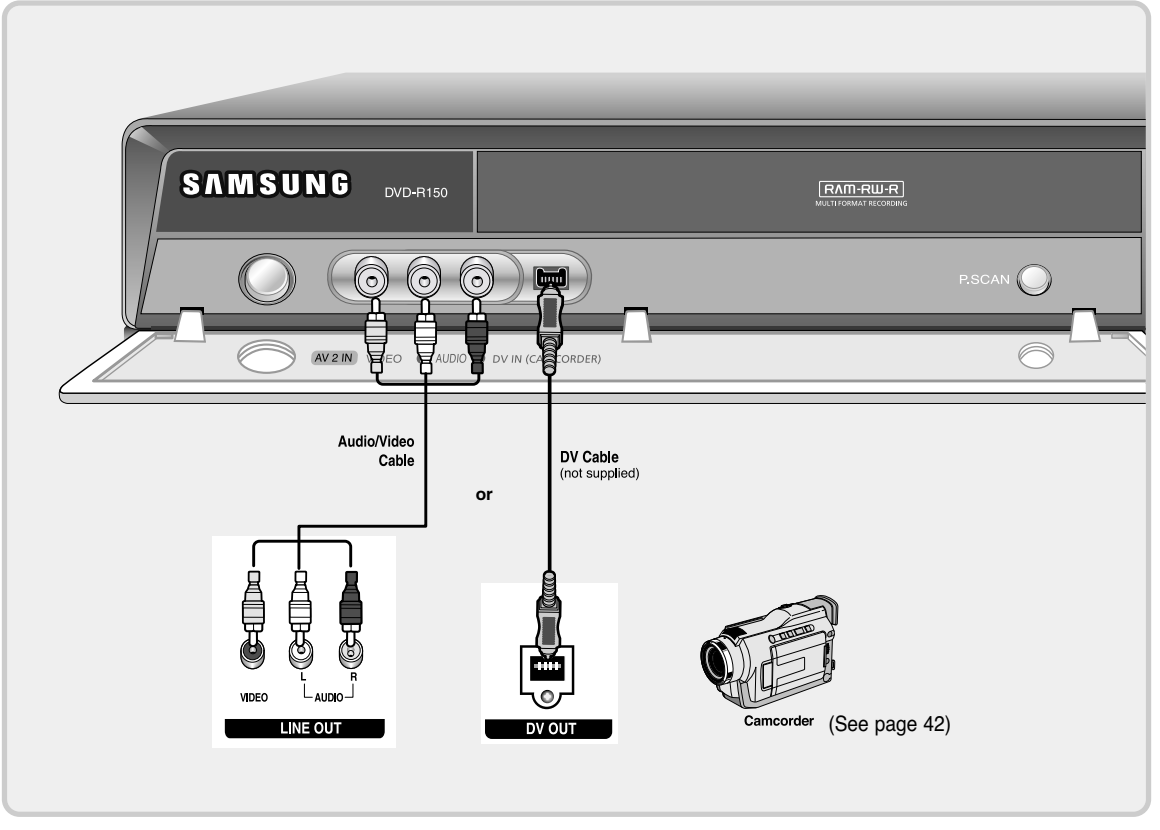
Connecting a VCR, Set Top Box(STB) or DVD Player to the AV 1 IN or S-VIDEO IN jacks

Connect the VCR or external device to the AV 1 IN jacks of the DVD Recorder.
You can record from connected equipment (VCR, STB or DVD Player).



Connecting a Camcorder

You can record from connected equipment, such as a camcorder by using the AV 2 IN or DV IN jacks on front of the DVD recorder.



NOTE

- When an Input source is inserted into AV 2 while watching TV, the Input will be switched to AV 2 automatically.
- If the Input is not selected automatically, press the INPUT SEL. button on the remote control to select the DV Input.
- Check your camcorder's owner's manual to see how to use the camcorder in this mode.

System Setup

Initial Setup 27
Using the Setup Menu 28
Setting Up the System Options 28
Clock Set 30
Channel Set 32
Language Setting 33
Setting up the Audio Options 33
Video (Display) Setting 34
Parental Control 35

Initial Setup

If you connected an external Audio System, turn on your Audio System and select AUX, CD or DVD.
The OSD (On-Screen Display) displayed on the screen may vary depending on conditions such as the disc type and whether the disc has been inserted or not.

OSD Language Setup

After plugging in the recorder, the first time you press the **POWER** button, the screen shown below appears.

1 Press the **POWER** button.

2 Press a number button to select the language.

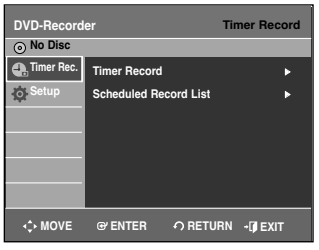
NOTE

- If the language for the startup screen is not set, the settings may change whenever you turn the power on or off. Therefore, make sure that you select the language you want to use.

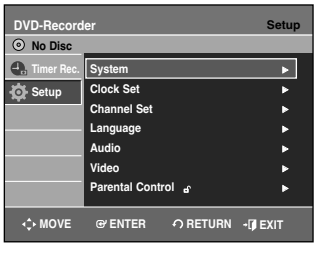
Using the Setup Menu

For ease of use, we recommend that you perform the initial setup before using the product.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button on the remote control.
Menu items differ depending on the disc type.



2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ▶ button.
Setup menu will be displayed.



- **System**
  Setup of the General Options.
  - CM Skip Time, EP Mode Time, Chapter Creator, Quick Recording
- **Clock Set**
  - Manual Clock Set
- **Channel Set**
  - Antenna/ Cable TV, Auto Channel Memory, Chanel Add/ Delete
- **Language**
  Setup of the Language Options.
  - Audio, Subtitle, Disc Menu, On-Screen Menu
- **Audio**
  Setup of the Audio Options
  - Digital Output , DTS, Dynamic Compression
- **Video**
  Setup of the Display Options.
  - TV Aspect, Input Level, Black Level, 3D Noise Reduction, DivX(R) Registration
- **Parental Control**
  Setup of the Parental Level
  Allows users to set the level necessary to prevent children from viewing unsuitable movies such as those with violence, adult subject matter, etc.
  - Password, Rating Level,Change Password

Setting up the System Options

CM Skip Time Setting

When a program recorded on a DVD-RAM, a DVD-RW, DVD-VIDEO or a DVD-R is played, the unit can be set to automatically skip a portion of the program corresponding to a CM(commercial) Skip Time set by the user.

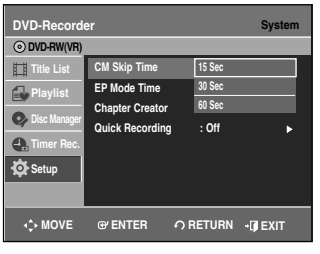
1 With a disc inserted and the unit in Stop mode, press the **MENU** button on the remote control.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ▶ button.
You can't use the Setup functions while playing a disc.

3 Select **System** using the ▲▼ buttons, then press the **ENTER** or ▶ button.
System menu will be displayed.

4 Select **CM Skip Time** using the ▲▼ buttons, then press the **ENTER** or ▶ button.
CM Skip Time will be displayed.

5 Select the desired time using the ▲▼ buttons, then press the **ENTER** or ▶ button.



6 If you press the **CM SKIP** button during playback, the section corresponding to the set time is skipped, and then the next section is played.

NOTE

- CM Skip can be performed only during normal playback.
- When the time set is less than the remaining time of a current title: The next title is played from the beginning.
- When the time set is less than the remaining time of a playlist, the next scene is played.
- CM Skip does not work in a still picture mode.
- When a set time is less than the remaining time of a scene, last title, or last track that is currently displayed, a prohibition mark appears.
- CM Skip releases Repeat (including Repeat A-B, Chapter, and Title).
- CM Skip may not operate with some DVD Video discs.
- DVD+R/DVD+RW discs do not support this function.

EP Mode Time Setting

You can set the EP (Extended Play) mode's time to 6 or 8 hours.

1 With a disc inserted and the unit in Stop mode, press the **MENU** button on the remote control.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button.
You can't use the Setup functions while playing a disc.

3 Select **System** using the ▲▼ buttons, then press the **ENTER** or ► button.

4 Select **EP Mode Time** using the ▲▼ buttons, then press the **ENTER** or ► button.
EP Mode Time will be displayed.

5 Select the desired time using the ▲▼ buttons, then press the **ENTER** or ► button.

Automatic Chapter Creation

This function works for DVD-RW (Video) and DVD-R discs only.

1 With a disc inserted and the unit in Stop mode, press the **MENU** button on the remote control

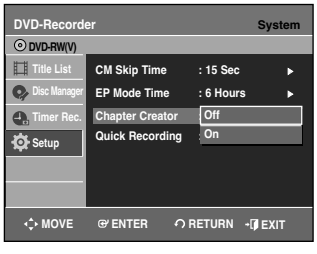
2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button.
You can't use the Setup functions while playing a disc.

3 Select **System** using the ▲▼ buttons, then press the **ENTER** or ► button.
System menu will be displayed.

4 Select **Chapter Creator** using the ▲▼ buttons, then press the **ENTER** or ► button.
Chapter Creator items will be displayed.

5 Select **On** using the ▲▼ buttons, then press the **ENTER** button.

- **Off :** Select this option when you do not want to create chapters.
- **On :** Select this option when you want to create chapters.



NOTE

- Set the chapter creator to on and then start recording. Stopping the recording will automatically create a chapter menu.
- This function only works for normal recording.
  - After the recording has begun, the "Do you want to create the chapter menu after this recording?" message appears for 10 seconds. Select **Yes** or **No**.
  - Selecting **Yes** will create a new chapter menu while selecting **No** will not.
  - A new chapter is created according to the selected recording mode. A chapter will be about 5 minutes long in XP and SP, and about 15 minutes long in LP and EP mode.
- To display the created chapters and finalize the disc, press the **DISC MENU** button. The chapters menu appears.

CAUTION

- The Automatic Chapter Creation function does not work during Timer Recording or when you turn the power off.

Quick Recording Setting

It takes about 10 seconds for a disc to load (initialize) every time you turn on the unit. To bypass this initialization process, you can set the Quick Recording feature to On. This enables you to record immediately without having to wait for the disc to load.

1 With a disc inserted and the unit in Stop mode, press the **MENU** button on the remote control

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button.
You can't use the Setup functions while playing a disc.

3 Select **System** using the ▲▼ buttons, then press the **ENTER** or ► button.
System menu will be displayed.

4 Select **Quick Recording** using the ▲▼ buttons, then press the **ENTER** or ► button.
Quick Recording menu will be displayed.

5 Select **On** using the ▲▼ buttons, then press the **ENTER** or ► button.

NOTE

- The Quick Recording is set to Off as default.

Clock Set

This menu is used to set the current time. You must set the time first to use timer recording.

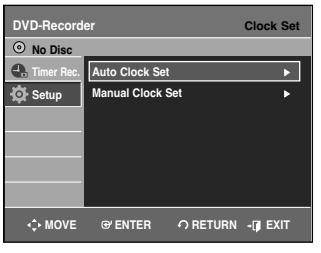
You must have the antenna/cable connected to set the Auto Clock. See pages 16-18 for Antenna connections.

Auto Clock Set

1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

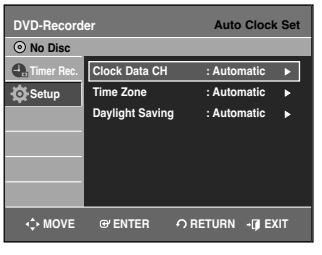
2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button.

3 Select **Clock Set** using the ▲▼ buttons, then press the **ENTER** or ► button.
Clock Set menu will be displayed.



4 Select **Auto Clock Set** using the ▲▼ buttons, then press the **ENTER** or ► button.

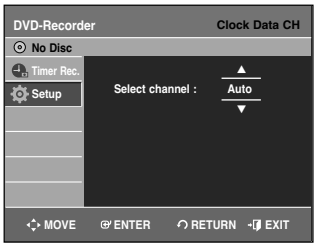
5 Select the sub menu(**Clock Data CH**, **Time Zone** or **Daylight Saving**) using the ▲▼ buttons, then press the **ENTER** or ► button.



Clock Data CH

Select a channel that carries a time signal using the ▲▼ buttons then press the **ENTER** button.

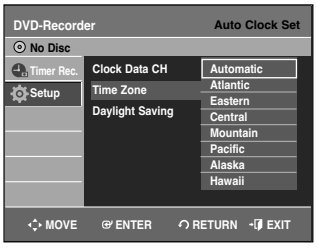
- Select **Auto** to set the clock data channel automatically.



Time Zone

Select the time zone of your area using the ▲▼ buttons then press the **ENTER** or ▶ button.

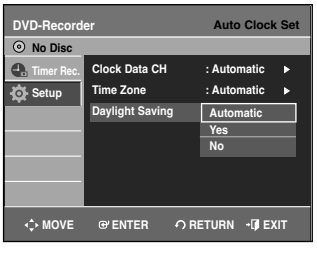
- Select **Automatic** to set the time zone automatically.



Daylight Saving

Select **Yes**, **No** or **Automatic** using the ▲▼ buttons, then press the **ENTER** or ▶ button.

- Select **Automatic** to set the daylight saving automatically.

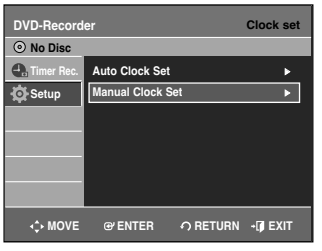


Manual Clock Set

If your clock cannot be set automatically, set the clock manually.

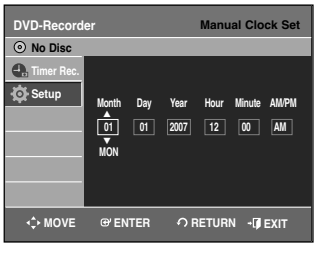
To setup, follow steps 1 to 3 in page 30.

4 Select Manual Clock Set using the ▲▼ buttons, then press the **ENTER** or ▶ button.



5 Select the current date and time (**Month**, **Day**,**Year**,**Hour**,**Minute** and **AM/PM**) using the ▲▼◀ ▶ or number buttons and then press the **ENTER** button.

When the current time is stored in memory and the set is powered off, the current time will appear in the front panel display.



▲▼ : Sets the value
You can set the value using the number (0~9) buttons.
◀ ▶: Moves to items

NOTE

- The Menus are slightly different depending on whether a disc is inserted or not. The menus described on the next few pages are with no disc in the unit.
- The menus are not available during playback or recording.

Channel Set

Auto Channel Memory

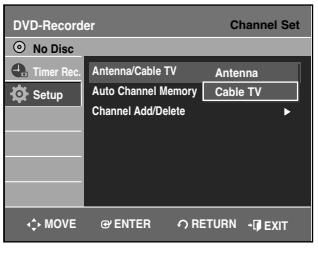
1 With the unit in Stop mode/No Disc mode, press the **MENU** button.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button.

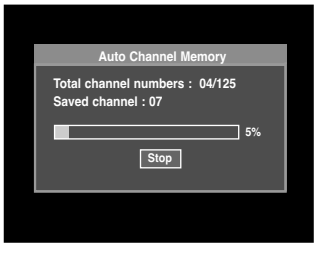
3 Select **Channel Set** using the ▲▼ buttons, then press the **ENTER** or ► button.

4 Select **Antenna/Cable TV**(Signal Source) using the ▲▼ buttons, then press the **ENTER** or ► button.

5 Select **Antenna** or **Cable TV**(depending on the hookup you've selected) using the ▲▼ buttons, then press the **ENTER** or ► button.



6 Select **Auto Channel Memory** using the ▲▼ buttons, then press the **ENTER** or ► button.
Auto Channel Memory will be displayed.
The memorizing process may take a few minutes.



NOTE

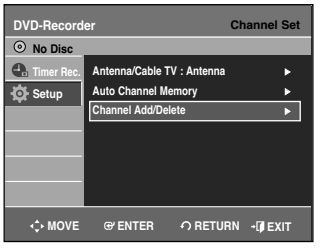
- If you want to stop **Auto Channel Memory**, press the **ENTER** button.
  The confirmation message will be displayed.
  Select **YES** using the ◄► buttons, then press the **ENTER** button

Manual Channel Set

Manual Channel Set can be used after you have performed Auto Channel Memory.
Use the Manual Channel Setting to delete unnecessary channels after finishing the Auto Channel Memory process.

To setup, follow steps 1 to 3 in page 32.

4 Select **Channel Add/Delete** using the ▲▼ buttons, then press the **ENTER** or ► button.



5 Select the channels you want to add or delete on the "Select channel" screen using the ▲▼ or number buttons. Then, press the **ENTER** button.

- Using CH (⌃ ⌄) buttons for channel selection allows the user to add/delete one channel at a time.
- Using ▲▼ buttons for channel selection jumps to the next channel memorized in Auto Channel Memory.

6 Select **Add** or **Delete** using the ◄► buttons,then press the **ENTER** button.

- The message 'Channel is added.' or 'Channel is deleted.' will be displayed in the center of the screen.
- Continue to add or delete as many channels as you want to memorize or delete. This can be used to add channels not stored automatically due to weak signal strength.
- Press the **RETURN** button to return to the previous menu. Press the **MENU** button to exit the menu.

System Setup

Language Setting

If you set the language options in advance,they will come up automatically every time you watch a movie.

1 With the union Stop mode/No Disc mode, press the **MENU** button on the remote control.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button

3 Select **Language** using the ▲▼ buttons, then press the **ENTER** or ► button.
The Language setup menu will be displayed.

4 Select the sub menu(**Audio**, **Subtitle**, **Disc Menu**, **On-Screen Menu**) and press the **ENTER** or ► button using the ▲▼ buttons.
- **Audio** : For the disc audio language.
- **Subtitle** : For the disc subtitles.
- **Disc Menu** : For the disc menu contained on the disc.
- **On-Screen Menu** : For the unit menu of your DVD recorder.

5 Select the desired language using the ▲▼ buttons, then press the **ENTER** or ► button.

NOTE

- If the selected language is not recorded on the disc,the original pre-recorded language is selected.
- The selected language will only appear if it is supported on the disc.

Setting up the Audio Options

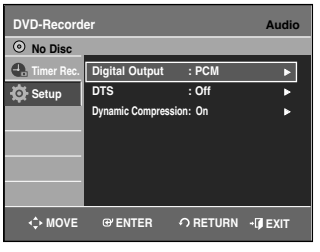
You can connect the DVD-R150 to an external audio amplifier or a Home Theater system.
This allows you to setup the audio device and sound status settings depending on the audio system in use.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button on the remote control.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ► button.

3 Select **Audio** using the ▲▼ buttons, then press the **ENTER** or ► button.

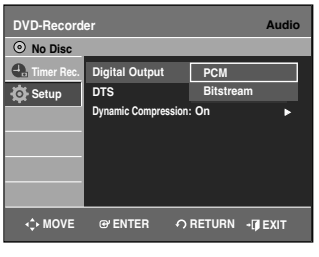
4 Select the sub menu(**Digital Output**, **DTS**, **Dynamic Compression**) using the ▲▼ buttons, then press the **ENTER** or ► button.



Select the item that matches the audio connection you've selected on pages 22-24(Method 1, 2 and 3).

Digital Output

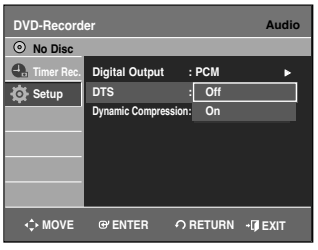
- **PCM** : Converts to PCM(2CH) 48kHz audio.
  Select PCM if your amplifier system supports stereo and/or Dolby Prologic.
- **Bitstream** : Outputs Bitstream.
  Select Bitstream if your amplifier system supports multi channel digital audio surround decoding such as Dolby Digital and/or DTS.



System Setup

DTS

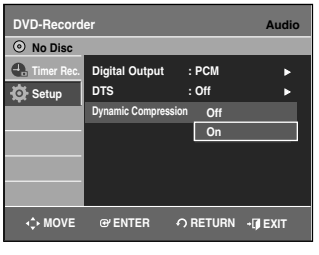
- **On** : Outputs DTS bitstream. (via Digital Audio Output)
  Select DTS when connecting to a digital amp with a DTS decoder.
- **Off** : Doesn't output DTS bitstream .
- When DTS soundtrack is played, sound is not output from the Analog Audio Output.



Dynamic Compression

This is only active when a Dolby Digital signal is detected.

- **On** : When movie soundtracks are played at low volume or from small speakers, the system can apply appropriate compression to make low-level content more intelligible and prevent dramatic passages from getting too loud.
- **Off** : You can enjoy the movie with standard Dynamic Range.



5 Select the desired item(**PCM**, **Bitstream**, **DTS-Off**, **DTS-On**, **Dynamic Compression-Off or Dynamic Compression-On**) using the ▲▼ buttons
Then press the **ENTER** or ▶ button.

Video (Display) Setting

This allows you to set up the TV screen settings.

TV Aspect

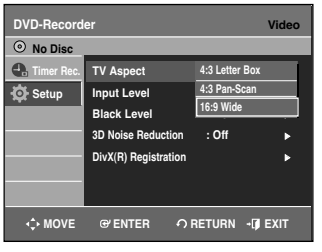
1 With the unit in Stop mode/No Disc mode, press the **MENU** button on the remote control.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ▶ button.

3 Select **Video** using the ▲▼ buttons, then press the **ENTER** or ▶ button.

4 Select **TV Aspect** using the ▲▼ buttons, then press the **ENTER** or ▶ button.

5 Select the desired item(**4:3 Letter Box**, **4:3 Pan-Scan** or **16:9 Wide**) using the ▲▼ buttons.
Then press the **ENTER** or ▶ button.



If you have a 4:3 standard TV

- **4:3 Letter Box** : Select when you want to see the total 16:9 ratio screen DVD supplies, even though you have a TV with a 4:3 ratio screen. Black bars will appear at the top and bottom of the screen.
- **4:3 Pan-Scan** : Select this for a conventional size TV when you want to see the central portion of the 16:9 screen. (Extreme left and right side of movie picture will be cut off.)

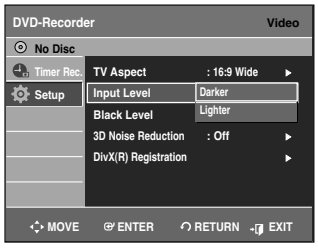
If you have a wide screen TV or 4:3 standard TV with a wide-screen mode

- **16:9 Wide** : You can view the full 16:9 picture on your widescreen TV.

Input Level

Adjusts the level of the input signal.

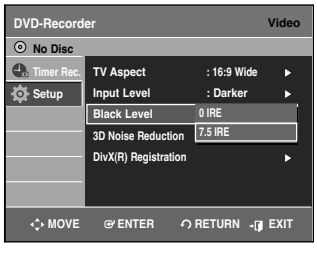
- **Darker** : If you feel the screen is too light and you want to make the screen darker.
- **Lighter** : If you feel the screen is too dark and you want to make the screen lighter.



Black Level

Adjusts the black level of the screen.

- **0 IRE** : Select this when you want a darker screen.
- **7.5 IRE** : Select this when you want a lighter screen.

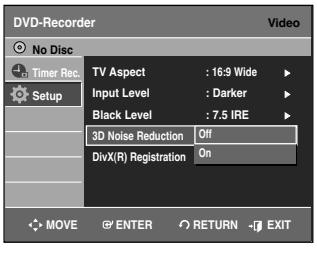


NOTE

- Black level function is not available in the progressive scan mode.
- IRE: Short for the Institute of Radio Engineers. An IRE unit is a relative unit of measure equaling 1/140th of the peak-to peak (p-p) video amplitude.

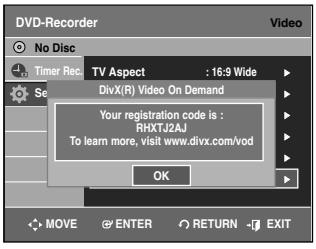
3D Noise Reduction

- **On :** Provides a cleaner picture through noise reduction (for recording).
- **Off :** Normal



DivX(R) Registration

Please use the Registration code to register your DVD Recorder with the DivX(R) Video On Demand format. To learn more, visit www.divx.com/vod.



Parental Control

DVD-VIDEO

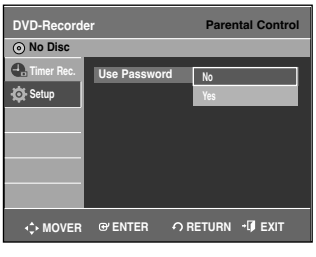
The Parental Control function works in conjunction with DVDs that have been assigned a rating - which helps you control the types of DVDs that your family watches. There are up to 8 rating levels on a disc.

1 With the unit in Stop mode/No Disc mode, press the **MENU** button on the remote control.

2 Select **Setup** using the ▲▼ buttons, then press the **ENTER** or ▶ button.

3 Select **Parental Control** using the ▲▼ buttons, then press the **ENTER** or ▶ button.

4 The first time the Parental Control is accessed, the 'Create the Password' message will be displayed. Create a 4-digit password using the 0 to 9 buttons on the remote control.



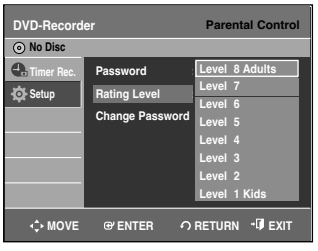
5 The Re-enter Password screen appears to confirm the password. Enter your password again.

6 Press the **ENTER** or ▶ button, and then select **On** using the ▲▼ buttons.
The Parental Control screen appears.

Setting the Rating Level

1 Select **Rating Level** using the ▲▼ buttons.

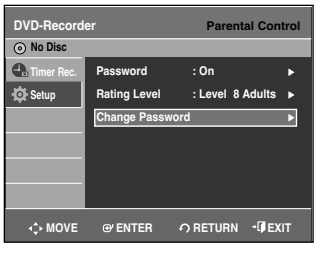
2 Press the **ENTER** or ▶ button.



3 Select the desired Level you want using the ▲▼ buttons, then press the **ENTER** or ▶ button.
For example, if you select up to Level 6, discs that contain Level 7, 8 will not play. A higher number indicates that the program is intended for adult use only.

Changing the Password

1 Select **Change Password** using the ▲▼ buttons.



2 Press the **ENTER** or ▶ button.
The "Enter the password" message will be displayed.

3 Enter the 4-digit password using the 0 to 9 buttons on the remote control.

4 The "Confirm the password" message will be displayed.
Enter your password again using the 0 to 9 buttons on the remote control.

NOTE

- If you forgot your password, remove the disc. Press the CH (◠◡) buttons on the front panel of the DVD Recorder simultaneously for 5 seconds or more when the power is on. All settings including the password will revert to the factory settings.

Recording

This section explains various DVD recording methods.

Before Recording.....37

Recording the current TV program you are watching.....40

Recording from External Equipment.....41

Copying from a Camcorder.....42

Making a One Touch Recording (OTR).....43

Setting a Timer Recording.....43

Flexible Recording (for Timer Recording only).....44

Editing the Scheduled Record List.....45

Deleting the Scheduled Record List.....45

Recording the Scheduled Record List.....46

EZ REC MODE.....46

Before Recording

This unit can record on various types of discs. Before recording, read the following instructions and select the disc type according to your preference.

Recordable discs

This recorder can record on the following discs.

DVD-RAM	DVD-RW	DVD-R
DVD RAM	DVD RW	DVD R

• DVD-RWs and DVD-RAMs are rewritable.
• DVD-Rs are non-rewritable

Compatibility between Samsung and Other manufacturer's Recorders

Disc Types	Recording format	Recording Device	Finalizing	Additional Recording in Samsung Recorder
DVD-RAM	VR Mode	Samsung	X	Recordable
		Other Company	X	Recordable
DVD-RW	VR Mode	Samsung	finalized	Not recordable
			not finalized	Recordable
		Other Company	finalized	Not recordable
			not finalized	Recordable
	V Mode	Samsung	finalized	Not recordable
			not finalized	Recordable
		Other Company	finalized	Not recordable
			not finalized	Not recordable
DVD-R	V Mode	Samsung	finalized	Not recordable
			not finalized	Recordable
		Other Company	finalized	Not recordable
			not finalized	Not recordable

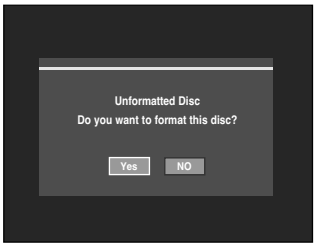
NOTE

- Finalize
  - This closes the DVD-R/-RW and no additional recording can be done.
- Unfinalize
  - This allows additional recording on a DVD-RW disc originally recorded on the DVD-R150.
  - A DVD-RW disc that has been recorded by DAO(Disc At once) in a PC cannot be unfinalized.
  - A DVD-RW disc that has been recorded in Video Mode of another manufacturer's recorder cannot be unfinalized.
  - A DVD-R disc cannot be unfinalized.

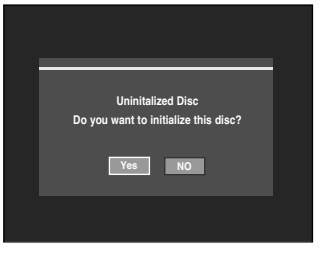
Recording Formats

Since available functions differ depending on the disc type, select a disc that best fits your preferences. When you insert an unused disc, the following message appears.

• DVD-RAM: Use after formatting the disc.



• DVD-RW: Use after initializing the disc. You can change the mode of DVD-RW disc.
Refer to Formatting a Disc on page 70.



• DVD-R: Formatting disc is unnecessary.

DVD-RW(Video mode)/-R

• Chapters will be created automatically when you finalize recording on DVD-R/DVD-RW discs in Video mode.
• Simple editing (erasing titles/changing title name).

DVD-RAM/-RW(VR mode)

• This mode involves multiple editing functions (such as deletion of the whole title, partial deletion of a title, etc.).
• Various editing options using a created Playlist.

NOTE

■ You can initialize discs automatically using EZ REC MODE. (see page 46)

Recording Mode

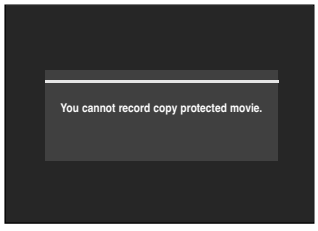
Select one of four record modes by pressing the **REC MODE** button repeatedly for the desired recording time and picture quality while the unit is in Stop mode.
In general, picture quality improves as the recording time decreases.
In FR mode, the most suitable record mode is selected automatically according to the remaining time on the disc and the length of the timer recording set.
You can select only one mode from XP, SP, LP and EP for timer recording.

Mode	Characteristic	Recording Times Data Rates
XP (high quality mode)	Select when the video quality is important.	Approx. 1 hour about 8 Mbps
SP (standard quality mode)	Select to record in standard quality.	Approx. 2 hours about 4 Mbps
LP (long recording mode)	Select when a long recording time is required.	Approx. 4 hours about 2 Mbps
EP (extended mode)	Select when a longer recording time is required.	Approx. 6 hours/ about 1.2 Mbps Approx. 8 hours/ about 0.8 Mbps
FR (Flexible Recording)	for timer recording only see page 44.	Approx 1 to 8 hours/ Approx 0.8 to 8Mbps

• The dual layer DVD-Rs have approximately double capacity than single layer DVD-Rs. (See page 48)

Unrecordable video

Videos with copy protection cannot be recorded on this DVD Recorder. When the DVD Recorder receives a copy guard signal while recording, recording stops and the following message appears on the screen.



Concerning Copy Control Signals

TV broadcasts that contain copy control signals may have one of the following three signal types, COPY-Free, Copy-Once and Copy-Never.
If you want to record a copy-once type program, use a DVD-RW disc with CPRM in VR Mode.
You can also use DVD-RAM discs.
("O" : supported, "-" : not supported)

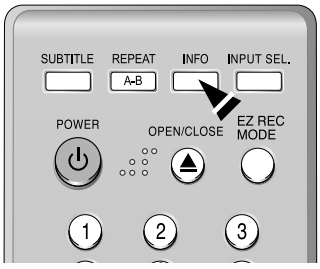
Media \ Signal type	Copy-Free	Copy-Once	Copy-Never
DVD-RAM(Ver.2.0)	O	O*	-
DVD-RW(Ver.1.1)	O	-	-
DVD-RW(Ver.1.1) with CPRM VR mode	O	O*	-
DVD-R	O	-	

When a "Copy Once" recording has been made, recording cannot be done anymore.
*compatible with CPRM.

◆ **Content Protection for Recordable Media (CPRM)**

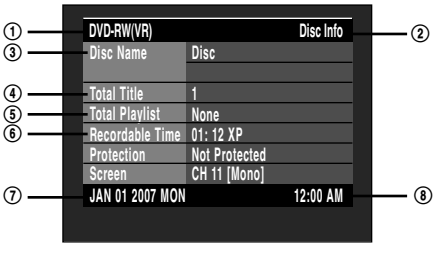
CPRM is a mechanism that ties a recording to the media on which it is recorded. It is supported by some DVD recorders, but not by many DVD players. Each blank recordable DVD has a unique 64-bit media ID etched in the BCA(Burst Cutting Area). When protected content is recorded onto the disc, it can be encrypted with a 56-bit C2 (Cryptomeria) cipher derived from the media ID. During playback, the ID is read from the BCA and used to generate a key to decrypt the contents of the disc. If the contents of the disc are copied to other media, the ID will be absent or wrong and the data will not be decryptable.

About the INFO button



The **INFO** function allows you to view the current status and progress of playback and recording. When recording on a used disc, make sure that there is enough disc space for recording.

◆ Press the **INFO** button.
The disc information display window appears.



① Disc Type
② Current information display status
③ Disc Name
④ Total Title : Total number of titles
⑤ Total Playlist : Total number of Playlists
⑥ Recordable Time : The longest continuous recording time in each of the record modes (approximate)
⑦ Date : Current date
⑧ Time : Current time

NOTE

- Items in the display differ depending on the disc type or the recording format.
- With DVD-RAMs or DVD-RWs, you can free up disc space by erasing titles.
- Press the INFO button again with the unit in playback or recording, then you can check the current status.

Recording the current TV program you are watching

DVD-VIDEO DVD-RAM DVD-RW

Before you start

1. Check to make sure the antenna cable is connected.
2. Check that the disc has enough available space for the recording. Adjust the recording mode.

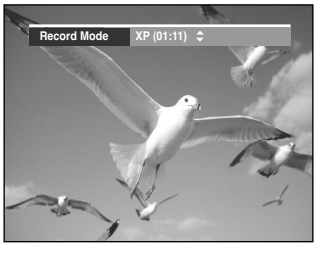
1 Press the **OPEN/CLOSE** button and place a recordable disc on the disc tray.

2 Press the **OPEN/CLOSE** button to close the disc tray. Wait until "LOAD" disappears from the front panel display.

3 Press the CH (∧/∨) or number (0 ~9) buttons to select the current program you want to record.

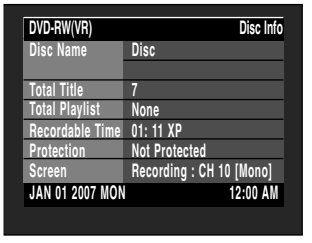
4 Press the **REC MODE** button repeatedly to select the recording speed(quality).

→ SP → LP → EP → XP →

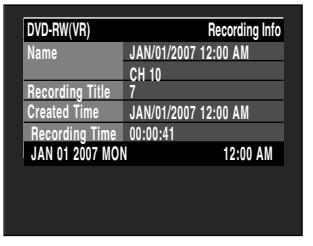


5 Press the **REC** button.
Information concerning the channel is displayed on the screen and then recording begins. Icon( ) is displayed on the front panel.

To view the current status of the disc and progress of recording : Press the **INFO** button, and the information about the disc will appear.



Press the **INFO** button once again to view information about the recording.



To stop recording

Press the **STOP ( )** button to stop or finish a recording in progress.

- When using DVD-RAM/DVD-RW/DVD-R discs, the message 'Updating the information of disc. Please wait for a moment.' is displayed.

To pause recording

Press the **PLAY/PAUSE ( )** button to pause recording in progress.

Press the **PLAY/PAUSE ( )** button again to resume recording.

NOTE

- Recording will stop automatically if there is no free space left for recording.
- Up to 99 titles can be recorded onto a DVD-RAM/-RW/-R disc.
- Recording will stop automatically if a copy protected image is selected.
- DVD-RAM/DVD-RW discs must be formatted before starting to record. Most new discs are sold unformatted.
- Do not use DVD-R authoring discs with this unit.

Recording from External Equipment

DVD-RAM DVD-RW DVD-R

Before you start

Check that the disc has enough available space for the recording. Adjust the record mode.

1 Press the **OPEN/CLOSE** button, and place a recordable disc on the disc tray.

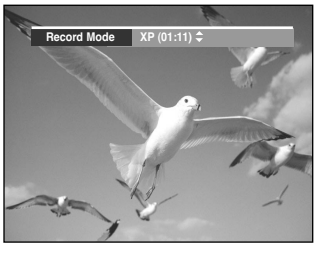
2 Press the **OPEN/CLOSE** button to close the disc tray. Wait until "LOAD" disappears from the front panel display.

3 Press the **INPUT SEL.** button to select the input source according to the connection you made. The front panel display changes in the following sequence:

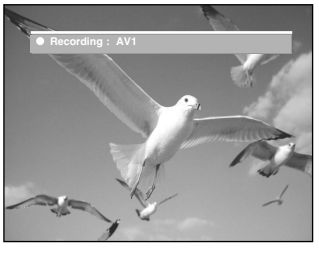
→ **Channel Number → AV1 → AV2 → DV** ┐

4 Press the **REC MODE** button repeatedly to select the recording speed(quality).

→ **SP → LP → EP → XP** ┐



5 Press the **REC** button.



To pause recording

Press the **PLAY/PAUSE ( )** button to pause recording in progress.

Press the **PLAY/PAUSE ( )** button again to resume recording.

To stop recording

Press the **STOP ( )** button to stop or finish recording in progress.

- When using DVD-RAM/DVD-RW/DVD-R discs, the message 'Updating the information of disc. Please wait for a moment.' is displayed.

NOTE

- You can not change the recording mode and input source during recording.
- Recording will stop automatically if there is no free space left for recording.
- Up to 99 titles can be recorded onto a DVD-RAM/-RW/-R disc.
- Recording will stop automatically if a copy protected image is selected.
- If you are using a Cable Box(no antenna), you cannot watch a different cable TV program from the one you're recording.
- DVD-RAM/DVD-RW discs must be formatted before starting to record. Most new discs are sold unformatted.
- Do not use DVD-R authoring discs with this unit.

Copying from a Camcorder

You may control a Digital Camcorder using the IEEE1394 (DV) interface.

DVD-RAM DVD-RW DVD-R

Before you start

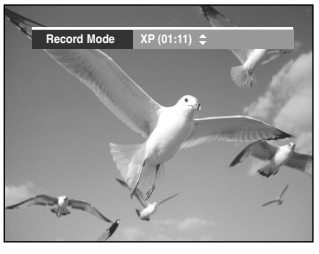
Check that the disc has enough available space for the recording. Adjust the record mode. See page 26 to see how to connect the camcorder to your DVD recorder.

1 Press the **OPEN/CLOSE** button, and place a recordable disc on the disc tray.

2 Press the **OPEN/CLOSE** button to close the disc tray.
Wait until "LOAD" disappears from the front panel display.

3 Press the **REC MODE** button repeatedly to select the recording speed(quality).

SP → LP → EP → XP



4 Press the **INPUT SEL.** button to select **DV**.
If the input is set to **DV**, a playback/record menu that enables Digital camcorder control appears on the top of the screen.

5 Select the **PLAY ( )** icon on the upper part of the screen to playback the camcorder and find the starting position to copy.

6 To start recording, select **REC( )** icon in the top side of the screen using the ◄ ► buttons, then press the **ENTER** button.

To stop recording

Press the **STOP ( )** button to stop or finish recording in progress.

• When using DVD-RAM/DVD-RW/ DVD-R discs, the message 'Updating the information of disc. Please wait for a moment' is displayed.

NOTE

- You can not change the record mode and input source while recording.
- Recording will stop automatically if there is no free space left for recording.
- Up to 99 titles can be recorded onto a DVD-RAM/-RW/-R disc.
- DVD-RAM/DVD-RW discs must be formatted before starting to record. Most new discs are sold unformatted.
- Do not use DVD-R authoring discs with this unit.
- To access on-screen controls during recording, press the ◄ or ► buttons.
- When copying from a camcorder and the end of the tape is reached (no Video), the screen may turn blue or purple.

Making a One Touch Recording (OTR)

DVD-RAM DVD-RW DVD-R

You can set the DVD Recorder to record in preset increments by pressing the REC button repeatedly.

1 If you want to record a TV channel, use the CH(∧/∨) buttons or number buttons to select a desired channel.

If you want to record from a connected external component, press the **INPUT SEL.** button to select an appropriate external input(AV1, AV 2 or DV).

- CATV channels: 1 to 125
- TV channels: 2 to 69

Example 1) Selecting Channel 120

100 + 2 + 0

Example 2) Selecting Channel 9

0 + 9

2 Press the **REC** button to start recording.

3 Press the **REC** button to adjust the recording time.

→ 0:30 → 1:00 → 1:30 → 2:00 → 3:00 → 4:00 → off

NOTE

- The timer counter decreases to 0:00, then the DVD Recorder stops recording. After finishing recording, the DVD Recorder will turn off automatically.

To stop recording

Press the **STOP (■)** button. The message "Press STOP button once more to cancel Timer Record." is displayed.
Press the **STOP (■)** button again to stop recording.

Setting a Timer Recording

DVD-RAM DVD-RW DVD-R

You need to set the Clock (Setup – Clock Set) before proceeding with a timer recording. (See page 30-31)

1 Press the **OPEN/CLOSE** button, and place a recordable disc on the disc tray.

2 Press the **OPEN/CLOSE** button to close the disc tray.
Wait until "LOAD" disappears from the front panel display.
If an unused DVD-RW disc is inserted, whether to initialize or not will appear. (See page 38)

3 Press the **MENU** button in Stop mode.
You can also set a timer recording via the **TIMER** button.

4 Press the ▲▼ buttons to select **Timer Rec.**, and then press the **ENTER** or ▶ button.

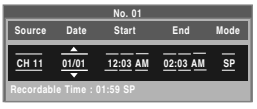
5 Press the ▲▼ buttons to select **Timer Record**, and then press the **ENTER** or ▶ button.
The Timer Record Input items are displayed.

6 Fill in the items using the ▲▼◄ ► buttons.
◄ ► : Moves to the previous/next item,
▲▼or 0~9 : To set or change items in the Scheduled Record List Menu.

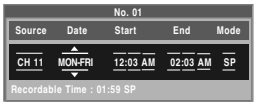
- **Source:** Select the video input source (AV 1, AV 2) or the broadcasting channel you want to make a timer recording of. When selecting channels to be recorded, the ▲▼ buttons on the remote control can let you select only the channels that have been memorized during Auto Channel Memory. For the selection of other channels, use the number buttons.
- **Date:** Date that the timer recording starts

- There are three options when setting the date. see below:

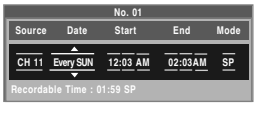
① To make a recording on a specific date, press the ▲▼ or number buttons until the date you want appears.



② To make a recording at the same time every day (MON-FRI), press the ▲▼ buttons until MON-FRI appears:



③ To make a recording on a specific day of the week(Every SUN - Every SAT), press the ▲▼ buttons until Sun's….Sat's appears:

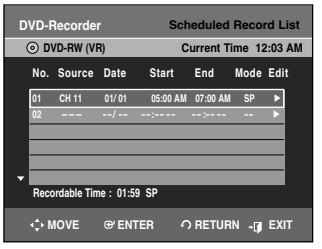


- **Start/End Time:** Start and end time of the timer recording
- **Mode (Record mode)**
  XP : Approx. 1 hour
  SP : Approx. 2 hours
  LP : Approx. 4 hours
  EP : Approx. 6 hours or 8 hours.
  FR : See page 44.

NOTE

- When you are recording at EP mode on a DVD-RW(V)/-R disc, it may not record the full 6 or 8 hours because the unit uses the VBR(Variable Bit Rate) ENCODING system. For example, if you record a Program with a lot of action, it uses a higher bit rate which in turn consumes more disc memory.

7 Press the **ENTER** button.


DVD-Recorder
Scheduled Record List
DVD-RW (VR)
Current Time 12:03 AM
No. Source Date Start End Mode Edit
01 CH 11 01/01 05:00 AM 07:00 AM SP
02
Recordable Time : 01:59 SP
MOVE ENTER RETURN EXIT

- (◴) and Timer Set will appear on the front panel display. This means that a timer recording is set.
- Recording is automatically performed when the set time is reached.

NOTE

- **If the timer settings overlap**
  Thefirst program has priority. After recording of the first program is complete, the second program starts being recorded.
- The timer recording time may be different from the actual set time depending on the disc and the timer recording status (for example, recording times overlapping, or if the previous recording ends within 3 minutes of the start of the next recording.)
- ◴ will start blinking if Timer Recording is not ready to start.

Flexible Recording (for Timer Recording only)

DVD-RAM DVD-RW DVD-R

In FR mode, the most suitable recording mode is selected automatically, according to remaining time on the disc and the length of the timer recording set.

The FR mode recording setup is the same as the Timer Recording setup. When setting the Rec mode in step 6, select FR Mode.(See page 44)

Editing the Scheduled Record List

DVD-RAM DVD-RW DVD-R

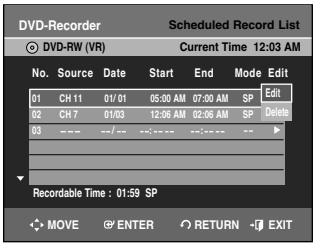
You can change timer record settings using the scheduled record list menu.

1 Press the **MENU** button in **STOP** mode.

2 Press the ▲▼ buttons to select **Timer Rec.**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Scheduled Record List**, and then press the **ENTER** or ▶ button.

4 Press the ▲▼ buttons to select the number of the Scheduled Record List you want to edit, and then press the **ENTER** or ▶ button.
The Edit and Delete items are displayed.


DVD-Recorder
Scheduled Record List
DVD-RW (VR)
Current Time 12:03 AM
No. Source Date Start End Mode Edit
01 CH 11 01/ 01 05:00 AM 07:00 AM SP
02 CH 7 01/03 12:06 AM 02:06 AM SP
03 --- --/-- --:---- --:---- --
Edit
Delete
Recordable Time : 01:59 SP
MOVE ENTER RETURN EXIT

5 Press the ▲▼ buttons to select **Edit**, and then press the **ENTER** or ▶ button.
The Timer Record Input item is displayed.

Edit the items you want to modify. See the Timer Record section for more information on Timer Record Input items. (See page 43).

6 Move through the items with the ◀ ▶ buttons and change the settings with ▲▼ or number buttons and press the **ENTER** button.

7 Press the **MENU** button after the operation is finished.
The menu screen will disappear.

Deleting the Scheduled Record List

DVD-RAM DVD-RW DVD-R

You can delete timer record list using the scheduled record list menu.

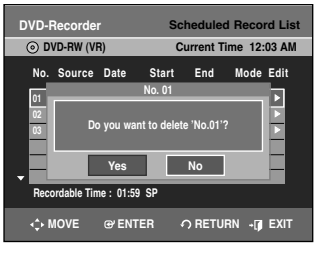
1 Press the **MENU** button in Stop mode.

2 Press the ▲▼ buttons to select **Timer Rec.**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Scheduled Record List**, and then press the **ENTER** or ▶ button.

4 Press the ▲▼ buttons to select the number of the timer recording you want to delete, and then press the **ENTER** or ▶ button.
The Edit and Delete items are displayed.

5 Press the ▲▼ buttons to select **Delete**, and then press the **ENTER** or ▶ button.



6 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.
The selected entry will be deleted from the list.

NOTE

- You can not delete programs that are currently being recorded.

Recording the Scheduled Record List

When the start time in the Scheduled Record List is reached while the unit is powered off, the unit will automatically power on and start recording.

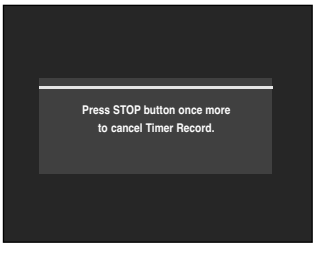
1 When the scheduled recording is operating, the program being recorded will not display on TV.

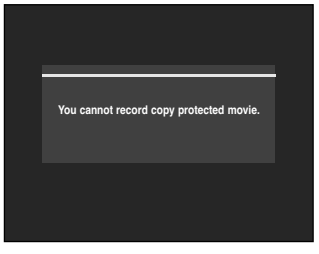
- Power on TV using the TV remote control.
- Power off TV using the TV remote control if you don't want to see the program being recorded.

To stop recording

Press the **STOP ( )** button. The message "Press STOP button once more to cancel Timer Record." is displayed.

Press the **STOP ( )** button again to stop recording.





NOTE

- If a copy protection signal is received during recording, recording will stop.
- If there is no free disc space or the disc is not recordable, recording will not operate. (You can record after replacing the disc.)

EZ REC MODE

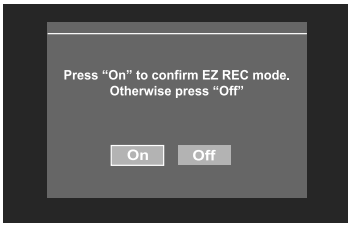
DVD-RAM DVD-RW DVD-R

This function allows you Initialize and Finalize a disc automatically.

1 With the unit in stop/No Disc mode, press the **EZ REC MODE** button on the remote control.

2 Press the ◄ ► buttons to select On, and then press the **ENTER** button.

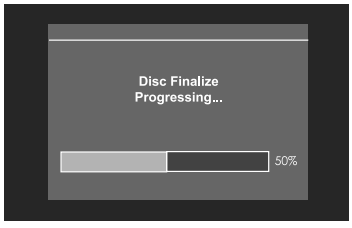
The EZ REC MODE is set up.



3 Insert a disc.
If the disc is new, it will initialize automatically.

4 Press the **REC** button.

5 EZ REC MODE will Automatically Finalize the disc under the following conditions.



- When you press the **OPEN/CLOSE** button on your DVD Recorder after recording on at least 30% of the disc. The tray will open after the disc has been finalized.
- When the disc is full, it will finalize automatically and the Recorder will remain in stop mode.
- When you make a timer recording and it occupies at least 30% of the disc,the disc will finalize automatically and the Recorder will power off.

Please note that auto finalization will not work if the Recorder has more than one Timer Recording set in the Scheduled Record List.

NOTE

- If you insert a new DVD-RW disc, it will be formatted in V mode after auto initializing.
- If you select off, you must initialize and finalize the disc manually in the Disc Manager menu.(see page 69)
- The length of Recording is different according to recording mode. (see page 44)

Playback

This section introduces basic playback functions and playback by disc type.

Read the following information before playing a disc.

Region code (DVD-Video only)

Both the DVD recorder and the discs are coded by region. These regional codes must match in order for the disc to play. If the codes do not match, the disc will not play. The Region Number for this recorder is described on the rear panel of the recorder.

Logos of Discs that can be played

Dolby Digital

DTS

Digital Audio

Stereo

NTSC broadcast system in U.S.A, Canada, Korea, Japan,etc.

DivX

MP3

Before Playing.....48
Playing a Disc.....49
Playing an Audio CD/MP3 56
Playing a Picture CD.....58
Playing an MPEG4 Disc.....59
Playing the Title List.....60

Before Playing

Disc types that can be played

Disc Types	Disc Logo	Recorded content	Disc Shape	Max. Playing Time
DVD-VIDEO		VIDEO AUDIO	Single sided(5")	240min
			Double sided(5")	480min
			Single sided(3.5")	80min
			Double sided(3.5")	160min
AUDIO-CD		AUDIO	Single sided(5")	74min
			Single sided(3.5")	20min
JPEG		JPEG Images	Single sided(5")	-
			Single sided(3.5")	-
MP3		MP3 Audio	Single sided(5")	-
			Single sided(3.5")	-
MPEG4		MPEG4 Movie	Single sided(5")	-
			Single sided(3.5")	-
DVD-RAM		VIDEO AUDIO	Single sided(5") (4.7GB)	1hr (XP: Excellent Quality)
				2hrs (SP: Standard Quality)
				4hrs (LP: Long Playback)
				6 or 8hrs (EP:Extended)
			Double sided(5") (9.4GB)	2hrs (XP: Excellent Quality)
				4hrs (SP: Standard Quality)
				8hrs (LP: Long Playback)
				12 or 16hrs (EP:Extended)
DVD-RW		VIDEO AUDIO	5" (4.7GB)	1hr (XP: Excellent Quality)
				2hrs (SP: Standard Quality)
				4hrs (LP: Long Playback)
				6 or 8hrs (EP:Extended)
DVD-R		VIDEO AUDIO	Single layer(5") (4.7GB)	1hr (XP: Excellent Quality)
				2hrs (SP: Standard Quality)
				4hrs (LP: Long Playback)
				6 or 8hrs (EP:Extended)
			Dual layer(5") (8.5GB)	2hrs (XP: Excellent Quality)
				4hrs (SP: Standard Quality)
				8hrs (LP: Long Playback)
				11 or 15hrs (EP:Extended)
DVD+RW		VIDEO AUDIO	5" (4.7GB)	1hr (XP: Excellent Quality)
				2Hrs (SP: Standard Quality)
				4hrs (LP: Long Playback)
				6 or 8hrs (EP:Extended)
DVD+R		VIDEO AUDIO	Single layer(5") (4.7GB)	1hr (XP: Excellent Quality)
				2hrs (SP: Standard Quality)
				4hrs (LP: Long Playback)
				6 or 8hrs (EP:Extended)
			Dual layer(5") (8.5GB)	2hrs (XP: Excellent Quality)
				4hrs (SP: Standard Quality)
				8hrs (LP: Long Playback)
				11 or 15hrs (EP:Extended)

Discs that cannot be played

- DVD-Video with a region number other than “1” or “ALL”
- 5” 2.6 GB and 5.2 GB DVD-RAM
- 3.9 GB DVD-R Disc for Authoring.
- A DVD±R/DVD-RW(V) disc which has been recorded and not finalized in a different manufacturer's recorder.
- PAL discs
- DVD-ROM/PD/MV-Disc, etc.
- Video CD/CVD/SVCD/CD-ROM/CDV/CD-G/CD-I

NOTE

- This DVD recorder can only operate with discs that are compatible with DVD-RAM Standard Version 2.0.
- Playback and/or recording may not work for some types of discs, or when specific operations, such as angle change and aspect ratio adjustment, are being performed. Information about the discs is written in detail on the box. Please refer to this if necessary.
- Do not allow the disc to become dirty or scratched. Fingerprints, dirt,dust,scratches or deposits of cigarette smoke on the recording surface may make it impossible to use the disc for recording.
- DVD-RAM/±RW/±R discs may not be able to play on some DVD players, depending on the player, disc and the condition of the recording.
- Discs with PAL programs recorded on them can not be recorded on using this product.

Playing a Disc

1 Press the **OPEN/CLOSE** button.
The tray opens.

2 Place a disc gently into the tray with the disc’s label facing up.
For DVD-RAM discs, insert the printed side facing up.

3 Press the **OPEN/CLOSE** button to close the disc tray.

- Your DVD Recorder closes the disc tray and loads the disc automatically.
- When the recorder is powered on and a disc is in the tray, the unit will be activated and wait in Stop mode.
- Press the **PLAY ( )** button to start playback.
- When the unit is powered off and there is a disc in the unit, pressing the PLAY( ) button will power on the unit and play the disc automatically.

4 Press the **STOP ( )** button to stop playback.

NOTE

- When you stop playing the disc, the recorder remembers where you stopped. When you press the PLAY button again, it will pick up where you left off. (unless the disc is removed, the recorder is unplugged, or if you do not press the STOP button twice.) This function is only applicable to DVD-VIDEO, DVD-RAM, DVD±RW, DVD±R or audio CDs (CD-DA).

Caution

- Do not move your DVD recorder while playing, as this may cause damage to the disc.
- Make sure to press the **OPEN/CLOSE** button to open or close the disc tray.
- Do not push the disc tray while it is being opened or closed, as this may cause a product malfunction.
- Do not place foreign materials on or in the disc tray.
- Some functions may perform differently or be disabled depending on the disc type. If this occurs, refer to the instructions written on the disc case.
- Be especially careful that children's fingers are not caught between the disc tray and the tray chassis when it closes.
- You must only insert one DVD disc at a time. Inserting two or more discs will not allow playback and may cause damage to the DVD player.

Using the Disc Menu & Title Menu

Some discs contain a dedicated menu system that allow you to select special functions for the title, such as chapters, audio track, subtitles, film previews, information on characters, etc.

For DVD-VIDEO Discs

Disc Menu: Press the **DISC MENU** button to enter the disc' menu.

- Move to the setup menu related to the playback operation.
- You can select the audio language and the subtitles provided by the disc.

Title Menu: Press the **TITLE MENU** button to move to the title menu of the disc.

- Use this button if the disc contains more than one title. Some type of discs may not support the title menu function.

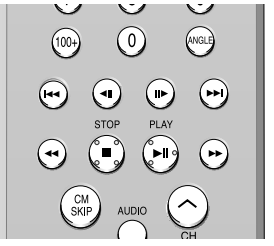
For DVD-RAM/DVD±RW/±R discs

Title List: Press the **TITLE LIST** button. The Title List is simply a list of titles on a disc. If a title is deleted, that title cannot be played again.

Play List: Press the **PLAY LIST** button. A playlist is a custom-made list of titles. When one playlist is played, only the titles within the playlist will play and then stop. Even if that playlist is deleted, the original recording will not be deleted. (only VR mode)

Using the Playback Related Buttons

Searching through a Chapter or Track



During playback, press the **SEARCH(⏪ ⏩)** button on the remote control.

DVD-VIDEO/ DVD-RAM/ DVD±RW/DVD±R	▶▶ Fast 1(X 2) → ▶▶ Fast 2(X 4) → ▶▶ Fast 3(X 8) → ▶▶ Fast 4(X16) → ▶▶ Fast 5(X 32) → ▶▶ Fast 6(X128) → ▶▶ Fast 1(X 2)
MPEG4	▶▶ Fast 1 → ▶▶ Fast 2 → ▶▶ Fast 3 ▶▶ Fast 1
AUDIO CD(CDDA)	▶▶ Fast X 2 → ▶▶ Fast X 4 → ▶▶ Fast X 8 → ▶▶ Fast X 2

- You can scan the program in reverse.
- Press and hold the **SEARCH** (⏪ ⏩) button, playback is done at the default speed of fast 2.
- If you release the **SEARCH** (⏪ ⏩) button, playback is performed at a normal speed. (Except CD-DA)
- To return to normal playback speed, press the **PLAY (⏯)** button.

- No sound is heard during Scan(Search) mode except fast playback (1.7X speed) mode.
- For CD(CD-DA), You can hear sound during Scan mode.
- You cannot hear audio while scanning an MPEG4.
- The speed marked while scanning may be different from the actual playback speed.

Searching Chapters or Tracks

During playback, press the **SKIP(⏮ ⏭)** button on the remote control.

- If you press the **SKIP(⏮)** button, it moves to the beginning of the chapter or track or marker (DVD-RAM,DVD-RW(VR mode).)
  Pressing the button once again within 3 seconds returns to the beginning of the previous chapter or track or marker (DVD-RAM,DVD-RW(VR mode).)
- If you press the **SKIP(⏭)** button, it moves to the next chapter or title or marker (DVD-RAM,DVD-RW (VR mode).)

Slow Motion Play

DVD-VIDEO DVD-RAM DVD-RW DVD-R MPEG4 DVD+RW DVD+R

In Pause mode, press the **SEARCH (⏩)** button on the remote control.

- If you press the **SEARCH (⏩)** button,

▶❙ Slow 1→ ❙▶ Slow 2→ ❙▶ Slow 3

- If you press the **SEARCH (⏪)** button,

▶◀❙ Slow 1→ ◀❙ Slow 2 → ◀❙ Slow 3

- Press and hold the **SEARCH(⏩)** button during pause, and the disc will play slowly at a 1/2 speed. If the button is released, the pause operation will resume.
- To return to normal speed playback, press the **PLAY(⏯)** button.

NOTE

- The speed marked in this function may be different from the actual playback speed.
- Slow motion operates only in the forward direction on MPEG4 discs.

Step Motion Play

DVD-VIDEO DVD-RAM DVD-RW DVD-R MPEG4 DVD+RW DVD+R

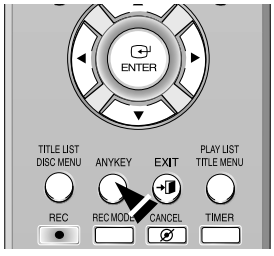
Press the **STEP(⏪ ⏩)** button on the remote control in still mode.

- Each time the button is pressed, a new frame will appear.
  If you press the **STEP (⏪)** button, the previous frame will be activated.
  If you press the **STEP (⏩)** button, the next frame will be activated.
- To return to normal speed playback, press the **PLAY(⏯)** button.

- Step motion operates only in the forward direction on MPEG4 discs.

Using the ANYKEY button

The **ANYKEY** function allows you to easily search for a desired scene by accessing title, chapter, track, and time. You can also change the subtitle and audio settings and set some features including Repeat, Angle, and Zoom.

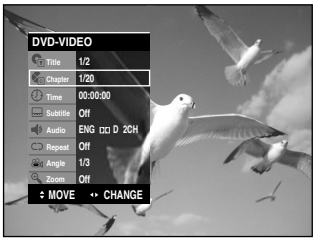


Moving to a Desired Scene Directly

DVD-VIDEO DVD-RAM DVD-RW DVD-R DVD+RW DVD+R

If you want to move to a certain title, chapter or time use this function.

1 Press the **ANYKEY** button during playback.



2 Press the ▲▼ buttons to select the Title, Chapter or Time.

3 Press the ◀▶ buttons or number (0~9) buttons to select the desired scene and then press the **ENTER** button.

In case of searching a time, Enter the time in the sequence of hours,minutes,seconds using the number buttons. ◀▶ are not available.

- The Time Search function does not operate with some discs.
- To make the screen disappear, press the ANYKEY again.

Playing Repeatedly

DVD-VIDEO DVD-RAM DVD-RW DVD-R DVD+RW DVD+R MPEG4

1 Press the **ANYKEY** button during playback.

2 Press the ▲▼ buttons to select **Repeat** and press the ◄► buttons to select the **Title** or **Chapter** you want to play repeatedly.

3 Press the **ENTER** button.

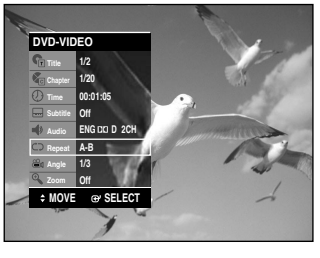
- DVD-RAM, DVD-RW(VR mode), unfinalized DVD±R and unfinalized DVD-RW (Video mode) do not repeat a chapter.

Playing a Certain section Repeatedly

DVD-VIDEO DVD-RAM DVD-RW DVD-R DVD+RW DVD+R MPEG4

1 Press the **ANYKEY** button during playback.

2 Press the ▲▼ buttons to select **Repeat** and press the ► button to select A-B.



3 Press the **ENTER** button.

4 Press the **ENTER** button at the point where you want the repeat play to start (A) and press it again at the point where you want the repeat play to stop (B).
Repeat playback of the A-B section starts.

NOTE

- If you set point (B) before five seconds has lapsed, the prohibition mark (⊘) will appear.
- You can also activate Normal Playback by pressing the CANCEL button.
- Audio CDs(CD-DA) and MP3 discs do not support the Repeat A-B function.

Selecting the Subtitle

DVD-VIDEO DVD-RAM DVD-RW MPEG4

(VR mode)

Subtitle languages may not work depending on the disc type. This is only available during playback.

1 Press the **ANYKEY** button during playback.

2 Press the ▲▼ buttons to select **Subtitle** and press the ◄►buttons to select the desired subtitle language.

NOTE

- If the subtitles overlap, disable the caption function on your TV.
- Some discs allow you to select the language for the disc menu only.
- To make the screen disappear, press the ANYKEYagain.

Playback

Selecting the Audio language

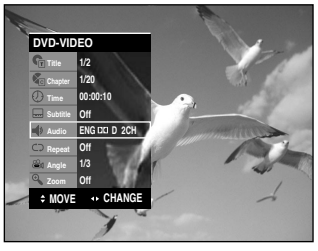
DVD-VIDEO DVD-RAM DVD-RW MPEG4

(VR mode)

Audio languages may not work depending on the disc type. This is only available during playback.

1 Press the **ANYKEY** button during playback.

2 Press the ▲▼ buttons to select Audio and press the ◄► buttons to select the desired audio language.



NOTE

- Audio languages may be different because they are disc-specific.
- Some discs allow you to select the audio language for the disc menu only.
- To make the screen disappear,press the ANYKEY again.

Using One Touch button

By pressing the audio button,you can access the Audio function directly.

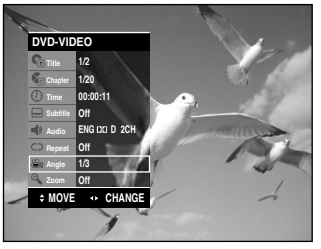
Changing the Camera Angle

DVD-VIDEO

When a DVD-VIDEO contains multiple angles of a particular scene, you can select the Angle function.
This is only available during playback.
If the disc contains multiple angles, the ANGLE mark appears on the screen.

1 Press the **ANYKEY** button during playback.

2 Press the ▲▼ buttons to select **Angle** and press the ◄► buttons or number(0~9) buttons to select the desired angle.



NOTE

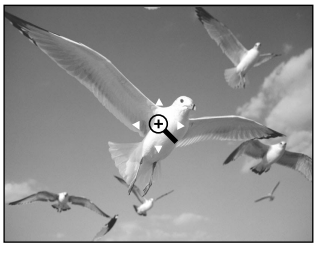
- This function is disc-dependent, and may not work all DVDs.
- This function does not work when a DVD has not been recorded with a multicamera angle system.
- To make the screen disappear, press the ANYKEY again.

Zooming-In

DVD-VIDEO DVD-RAM DVD-RW DVD-R DVD+RW DVD+R

1 Press the **ANYKEY** button during playback or pause.

2 Press the ▲▼ buttons to select **Zoom**, and then press the **ENTER** button.
(🔍) will be displayed.



3 Press the ▲▼ ◄► buttons to move to the area you want to enlarge.

4 Press the **ENTER** button.

normal size→ 2X→ 4X→ 2X→ normal size.

Using Bookmarks

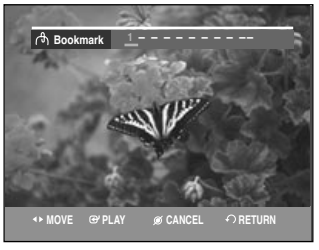
(V mode)

This feature lets you bookmark sections of a DVD or DVD-R/-RW(V mode), so you can quickly find them.

◆ Setting Bookmarks

1 Press the **MARKER** button during playback.

2 Press the **ENTER** button when the desired scene appears.
The number 1 is displayed and the scene is memorized.



3 Press the ◄► button to move to the next position.

4 Press the **ENTER** button when the desired scene appears.
The number 2 is displayed and the scene is memorized.

- Repeat above to bookmark other positions.
- You can bookmark up to 10 scenes.

NOTE

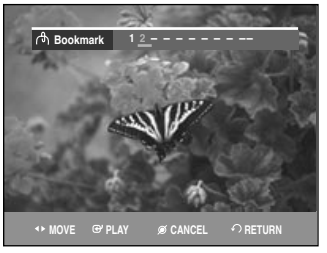
- When the disc tray is opened and then closed, bookmarks will disappear.
- The bookmark button display may differ depending on the disc type.

◆ Playing Back a Bookmark

1 Press the **MARKER** button during playback.

2 Press the ◄► buttons to select a bookmarked scene.

3 Press the **ENTER** or **PLAY(⏯)** button to start playing from the selected scene.



◆ Clearing a Bookmark

1 Press the **MARKER** button during playback.

2 Press the ◄► buttons to select a bookmarked scene.

3 Press the **CANCEL** button to delete the selected bookmark.

Using Markers

(VR mode)

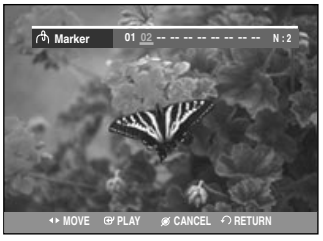
◆ Setting Markers

1 Press the **MARKER** button during playback.

2 Press the **ENTER** button when the desired scene appears.
The number 01 is displayed and the scene is memorized.

3 Press the ◄► button to move to the next position.

4 Press the **ENTER** button when the desired scene appears.
The number 02 is displayed and the scene is memorized.



- DVD-RAM or DVD-RW (VR Mode) discs have the Marker function instead of the Bookmark function.

  The Marker function allows you to mark up to 99 scenes. Since the scenes may be displayed as many different pages, numbering is necessary.

  If a disc in use is encoded with Disc Protect, Markers cannot be set or deleted. Only playback is available.

◆ Playing Back a Marker

1 Press the **MARKER** button during playback.

2 Press the ◄► buttons to select a bookmarked scene.

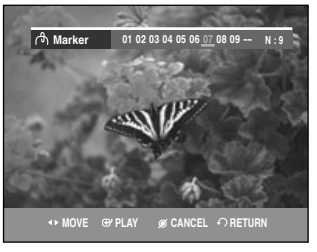
3 Press the **ENTER** or **PLAY(⏯)** button to start playing from the selected scene.

- If you press the **SKIP (⏭)** button, it moves to the beginning of the marker. Pressing the button once again within 3 seconds returns to the beginning of the previous marker.
- If you press the **SKIP (⏭)** button, it moves to the next marker.

◆ Clearing a Marker

1 Press the **MARKER** button during playback.

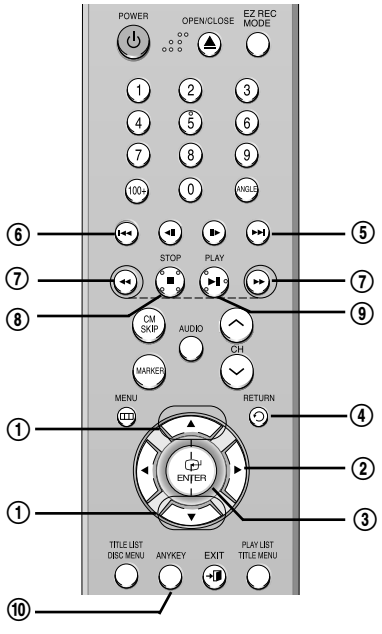
2 Press the ◄► buttons to select a bookmarked scene. Press the **CANCEL** button to delete the selected bookmark.



- When a marker is cleared while a DVD-RAM/DVD-RW (VR mode) is playing, marker numbers will change. For example, if the 7th marker is cleared after ten markers are registered, the marker numbers after the eighth will automatically move ahead by one and the 8th marker becomes the 7th.

Playing an Audio CD/MP3

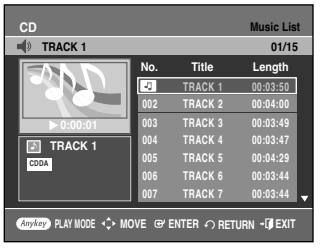
Buttons on the Remote Control used for CD playback



1. ▲▼ : Selects a track (song).
2. ▶ : Plays the selected track (song).
3. **ENTER ( ) button** : Plays the selected track (song).
4. **RETURN ( ) button** : Moves to the folder to which the current song belongs.
5. **SKIP( ) button** : Plays the next track.
6. **SKIP( ) button** : Returns to the beginning of the current track when pressed during playback. If pressed again, your DVD recorder moves to and plays the previous track. If you press this button within three seconds after playback starts, the previous track will be played.
   If you press this button after three seconds, the current track will be replayed from the beginning.
7. **SEARCH(/) button** : Fast Play (X2, X4, X8)
8. **STOP( )** : Stops a track(song).
9. **PLAY/PAUSE( )** : Plays a track(song) or pauses playback.
10. **ANYKEY**: To select the sub menu on screen display (Repeat or Play Option).

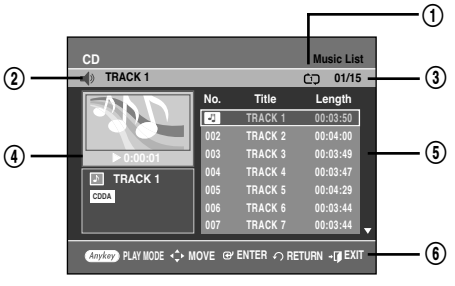
Playing an Audio CD (CD-DA)

1 Insert an audio CD (CD-DA) into the disc tray.
The audio CD menu appears and the tracks (songs) are played automatically.



2 Press the ▲▼ buttons to select the track you want to hear, and then press the **ENTER** button or ▶ button.

◆ **Audio CD(CD-DA) Screen Elements**

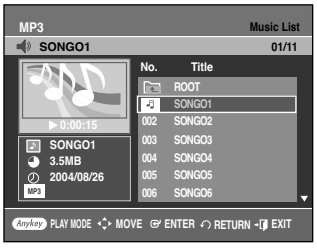


1. PLAY MODE icon
2. Current track (song) : Displays the number of the track currently being played.
3. Displays the current play index and total track number.
4. Shows the operating state of a disc and the current playback time.
5. Displays the track list (song list) and the playing time of each track.
6. Button display.

Playing an MP3 Disc

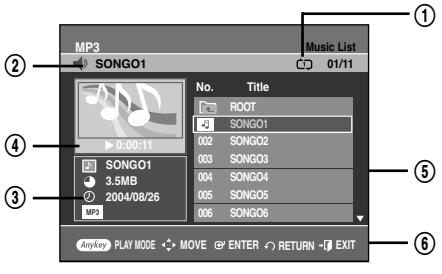
1 Insert an MP3 disc into the disc tray.
And press the ▲▼ buttons to select **Disc Navigation**, and then press the **ENTER** or ► button.

2 Press the ▲▼ buttons to select **Music**, and then press the **ENTER** or ► button.
The MP3 menu appears and the tracks(songs) are played automatically.



3 Press the ▲▼ buttons to select the track (song) you want to hear, and then press the **ENTER** button or ► button.

MP3 Screen Elements



1. **PLAY MODE icon**
2. **Current track (song)** : Displays the name of the track being played.
3. MP3 file information.
4. Shows the operating state of a disc and the current playback time.
5. Displays the information for the folder and its tracks.
6. Button display.

Playing Repeatedly

1 Press the **ANYKEY** button during playback.
The play mode window appears.

2 Select the desired repeat mode using ◄► buttons, and then press the **ENTER** button.

- Track:Selected track is played repeatedly.
- Disc: Inserted disc is played repeatedly.
- Folder(mp3 only):Tracks in the current folder are played repeatedly.

To return to normal playback

3 Select **Off** in play mode window using ◄► buttons, and then press the **ENTER** button.

Play Option Mode

1 During Stop, Press the ANYKEY button. The play option will be highlighted.

• During Playback, Repeat Mode will be highlighted.

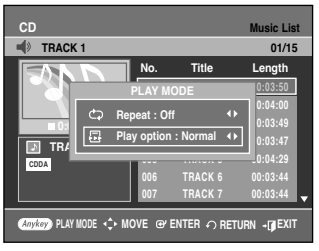
2 Select a desired play option (Normal, Random, Intro or Playlist) using the ◄► buttons. Press the **ENTER** button.

- **Normal** : Tracks on a disc are played in the order in which they were recorded on the disc.
- **Random (R)** : The Random option plays the disc's tracks in random order. After a random list is generated and played completely, another random list is generated and played. Random Play is continued until the play option is changed.
- **Intro** (I): The first 10 seconds of each track will be played. If you want to listen to the music that you have selected, press the **ENTER** button or **PLAY** (⏯) button. The play option will be changed to Normal Play. When Intro Play is completed, Normal Play is performed.
- **Playlist** : The Playlist playback option allows you to select the order in which you want tracks to play.

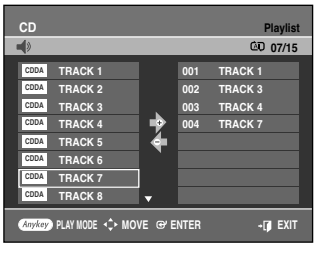
To Program Tracks

You can register a maximum of 30 tracks in the playlist.

1 Press the **ANYKEY** button during playback, then select **Play option** using ▲▼ buttons.



2 Select **Playlist** using the ◄► buttons, and then press the **ENTER** button.
The Playlist screen will appear.
Select tracks in the order in which you want them to play using the ▲▼ buttons.
Press the **ENTER** button.



If there is a track on your playlist you wish to remove. Press the ► button, then press the ▲▼ buttons to select the track you wish to remove then press the **CANCEL** button.
The selected track will be removed.

3 Press the **PLAY(⏯)** button to playback the playlist.

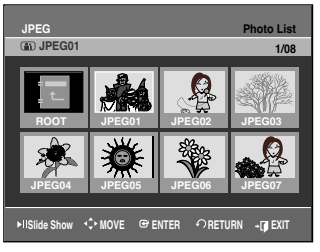
Playing a Picture CD

1 Insert an JPEG disc into the disc tray.

2 Press the ▲▼ buttons to select **Disc Navigation**, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Photo**, and then press the **ENTER** or ► button.

4 Press the ▲▼ ◄► buttons to select a picture.



- To see the next 8 pictures, press the **SKIP(⏭)** button.
- To see the previous 8 pictures, press the **SKIP(⏮)** button.

5 -1 If you press the **PLAY(⏯)** button, the Slide show screen will appear.
The picture interval (Slide show speed) must be set.

5-2 Press the **ENTER** button with a picture selected in the Album screen and select a display mode (**Album screen** ( ), **Slide show** ( ), **Rotation** ( ) or **Zoom** ( )) using the ◄ ► buttons, then press the **ENTER** button.

: Returns to the Album screen.

: The unit enters slide show mode.
Before the slide show can begin, the picture interval (Slide show speed) must be set.

: Each time the **ENTER** button is pressed, the picture rotates 90 degrees clockwise.

: Each time the **ENTER** button is pressed, the picture is enlarged up to 4X.
(**Normal → 2X → 4X → 2X → Normal**)

• Press the **ANYKEY** button to display or clear menus.

Playing an MPEG4 Disc

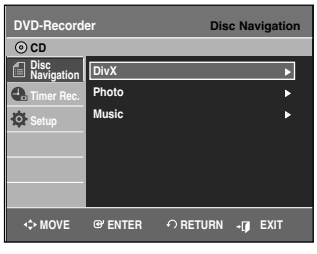
MPEG4

An MPEG4 File is used to contain the audio and video data.
An MPEG4 File with following extensions can be played.
- .AVI, .DIVX, .avi, .divx

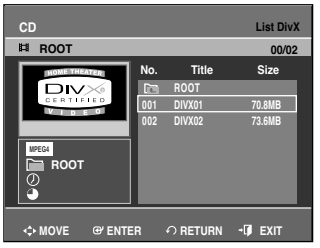
1 Insert a MPEG4 Disc into the disc tray.

2 Press the ▲▼ buttons to select the **Disc Navigation**, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select the **DivX**, and then press the **ENTER** or ► button.



4 Press the ▲▼ buttons to select the avi file (DivX), then press the **ENTER**, ► or **PLAY** button.



5 When an MPEG4 file is being played, you can use following functions.

Pressing the **STOP** button once during playback will display the file list, pressing the button again will exit the menu screen.

MPEG4 Function Description

Function	Description
Skip (⏮ or ⏭)	During playback, press the **SKIP** (⏮ or ⏭) button, it moves forward or backward 5 minutes.
Search (⏪ or ⏩)	During playback, press the **SEARCH** (⏪ or ⏩) button and press again to search at a faster speed. (2X, 4X, 8X)
Slow Motion Play	In pause or step mode, press the **SEARCH** (⏩) button on the remote control. (1/8X, 1/4X, 1/2X)
Step Motion Play	Press the **STEP**(⏯) button on the remote control in the still mode.

NOTE

- This DVD Recorder can play the following video compression formats,
  -MPEG4 Codec format :DivX 3.11 DivX 4.x DivX 5.x
  -Audio format :.MP3,.MPEG,.PCM,.AC3,.DTS
- Supported subtitle file formats:.smi,.srt,.sub,.psb, .txt (The subtitle file should have exactly the same name to corresponding MPEG4 file name)
- Some MPEG4 files created on a personal computer may not be able to played back. This is why Codec Type,Version and Higher resolution over specification is not supported.

Playback

Playing the Title List

DVD-RAM DVD-RW DVD-R DVD+RW DVD+R

Follow these instructions to play back a scene from the Title List.

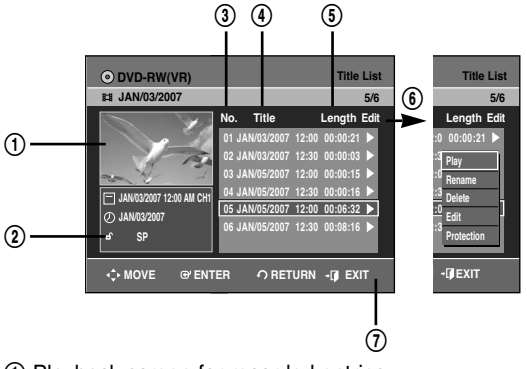
1 Press the **TITLE LIST** button.

2 Press the ▲▼ buttons to select an entry you want to play from Title List, and then press the **PLAY(▶)** button.

The selected entry (title) will be played back.

3 To stop playing the title, press the **STOP(■)** button.
To return the title list screen, press the **TITLE LIST** button.

Title List Screen Elements



① Playback screen for recorded entries
② Information window for the selected entry : Title name, recording date, lock status, record mode
③ Recorded entry No.
④ Recorded entry title
⑤ Recording length (i.e., the playing time)
⑥ Title list edit items
Play : Plays the selected entry.
Rename : Renames the title of a selected entry.
Delete : Deletes the selected entry from the list.
Edit : Deletes a section.
Protection : Locks or unlocks the selected entry.
⑦ Button display

NOTE

- By pressing the ANYKEY button,you can play the desired title.
- This may depend on the disctype.
- DVD-R/DVD-RW(Video) has limited editing function.

Playback

Editing

This section introduces basic functions of DVD editing.

Basic Editing (Title List).....62

Advanced Editing (Playlist).....64

Disc Manager.....69

This section introduces basic functions of DVD editing.

- **Title List**
  A title is a section of recorded video and audio. The Title List shows a list to help you select a title. If one title is deleted, that title cannot be played again.
- **Playlist**
  This refers to a unit of playback, which is made by selecting a desired scene in the entire Title List. When one playlist is played, only the scene selected by the user will play and then stop. Since only the information necessary for playing a desired scene is included in a playlist, even if that playlist is deleted, the original recorded title will not be deleted.

Recording or editing might not be completed if an error such as a sudden power failure occurs.

Please be aware that material that has been damaged cannot be retrieved.

Basic Editing (Title List)

Renaming (Labeling) a Title

Follow these instructions to rename a title list entry, i.e., to edit the title of a recorded program.

DVD-RAM DVD-RW DVD-R DVD+RW

Using the TITLE LIST button

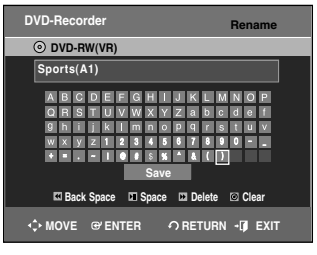
1 Press the **TITLE LIST** button.
The Title List screen is displayed.

Or use the MENU button
- Press the **MENU** button.
- Press the ▲▼ buttons to select **Title List**, then press the **ENTER** or ► button twice.

2 Press the ▲▼ buttons to select an entry you want to rename from the **Title List**, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Rename**, and then press the **ENTER** or ► button.
The Rename screen is displayed.

4 Select the desired characters using the ▲▼◄► buttons, press the **ENTER** button.



- **Back Space** : Deletes the character before the cursor.
- **Space** : Enters a blank and moves the cursor one forward (to the right).
- **Delete** : Deletes the character at the cursor position.
- **Clear** : Deletes all the character inputs.
- **Save** : Registers the character inputs.
- The maximum number of characters that can be entered is 31. All 31 characters can be displayed by pressing the INFO button twice.

5 Press the ▲▼◄► buttons to select **Save**, and then press the **ENTER** button.
The changed title name is displayed on the title item of the selected Title list entry.

Locking (Protecting) a Title

DVD-RAM DVD-RW DVD-R DVD+RW

Follow these instructions to lock an entry to protect it from accidental deletion.

1 Press the **TITLE LIST** button.
The Title List screen is displayed

Or use the MENU button
- Press the **MENU** button.
- Press the ▲▼ buttons to select **Title List**, and then press the **ENTER** or ► button twice.

2 Press the ▲▼ buttons to select an entry you want to protect from the **Title List**, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Protection**, and then press the **ENTER** or ► button.

4 Press the ◄► buttons to select **On**, and then press the **ENTER** button. The lock icon on the information window for the selected entry changes to the locked status. (→)
If you want to unlock the title entry, select the protected title and set the Protection function to **Off.**

Editing

Deleting a Title

Follow these instructions to delete an entry from the Title List.

DVD-RAM DVD-RW DVD-R

1 Press the **TITLE LIST** button.
The Title List screen is displayed

Or use the MENU button
- Press the **MENU** button.
- Press the ▲▼ buttons to select **Title List**, and then press the **ENTER** or ► button twice.

2 Press the ▲▼ buttons to select an entry you want to delete from the Title List, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Delete**, and then press the **ENTER** or ►button.

You will be prompted with the confirmation message. **DVD-RAM, DVD-RW(VR mode)**: Since Playlist is present, the message "Do you want to delete?(Related playlists may be deleted.)" is displayed.

DVD-RW(Video mode), DVD-R: Since Playlist is not present, the message "Do you want to delete?" is displayed.

- The message may be different depending on the type of disc.

4 Press the ◄► buttons to select **Yes**, and then press the **ENTER** button.

NOTE

- You cannot delete a protected entry. If you want to delete a protected entry, select "Off" in the Title Protection menu.
- Once an entry is deleted from the Title List, it cannot be recovered.
- Once a DVD-R or DVD-RW is finalized, it cannot be deleted.
- With DVD-R, titles are only deleted from the menu, however, the Title remains physically on the disc.

Deleting a Section of a Title

DVD-RAM DVD-RW
(VR mode)

Follow these instructions to delete a section of a Title List entry.

1 Press the **TITLE LIST** button.
The Title List screen is displayed.

Or use the MENU button
- Press the **MENU** button.
- Press the ▲▼ buttons to select **Title List**, and then press the **ENTER** or ► button twice.

2 Press the ▲▼ buttons to select an entry you want to edit from the Title List, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Edit**, and then press the **ENTER** or ► button.

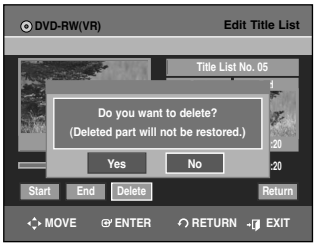
4 Press the **ENTER** button at the starting point.
The image and starting point time are displayed on the section deletion starting point window.

5 Press the **ENTER** button at the end point.
The image and end point time are displayed in the Section deletion ending point window.

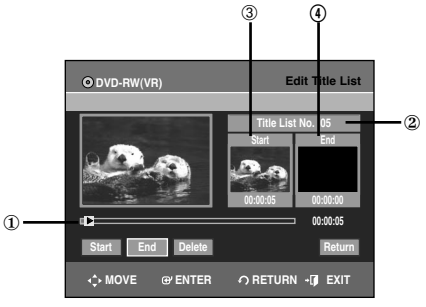
6 Press the ◄► buttons to select **Delete**, and then press the **ENTER** button.
The message "Do you want to delete?(Deleted part will not be restored)" is displayed.

Editing

7 Press ◄ ► buttons to select **Yes,** and then press the **ENTER** button.
The selected section is deleted.
To return to the Title List screen, press the ◄ ► buttons to select **Return**.



Edit Title List Screen Elements



1. Playback bar
2. Title List No.
3. Section deletion starting point window and time
4. Section deletion end point window and time
   - Select the start and end points of the section you want to delete using the playback related buttons.
   - Playback related buttons (⏯ , ⏪ , ⏩ , ⏮ , ⏭ , ⏯)

NOTE

- The length of the section to be deleted must be at least 5 seconds long.
- If the length of the section to be deleted is less than 5 seconds, you will be prompted with the message “The range is too short.”.
- If the end time precedes the starting point, you will be prompted with the message “End point cannot be marked earlier than start point”.
- The section cannot be deleted when it includes a still picture.

Advanced Editing (Playlist)

Creating a Playlist

Follow these instructions to create a new playlist entry from a recorded title.

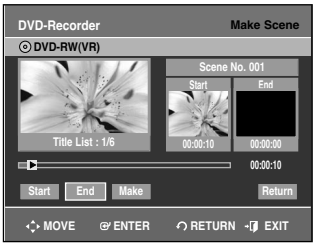
DVD-RAM DVD-RW
(VR mode)

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Playlist**, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **New Playlist**, and then press the **ENTER** or ► button.
The Make Scene screen is displayed.

4 Press the **ENTER** button at the start point.



- The image and starting point time are displayed on the Start window.
- The yellow-colored selection bar moves to the **End** item.
- Select the starting point of the section from which you want to create a new scene using the playback related buttons (⏯ , ⏪ , ⏩ , ⏮ , ⏭ , ⏯)

5 Press the **ENTER** button at the end point.

- The image and end point time are displayed on the **End** window.
- The yellow-colored selection bar moves to the **Make** item.

Editing

To make a new playlist

6 Press the ◄► buttons to select **Make**, and then press the **ENTER** button.
A new Scene will be added to the current Playlist.
A new Make Scene screen is displayed.
Repeat the above steps 4~6 to create further scenes.

NOTE
- If you want to make a new playlist, go to **MENU** → new playlist.
- You can check and see all the scenes on Edit Playlist screen.

To return to Edit Playlist menu

7 Press the ◄► buttons to select **Return**, and then press the **ENTER** button.
The Edit Playlist screen is displayed.

NOTE
- You can create up to 99 playlist entries.
- Depending on the disc type, the displayed screen may look slightly different.

Playing Entries in the Playlist

DVD-RAM DVD-RW
(VR mode)

Follow these instructions to play the playlist entries.

1 With the unit in stop mode, press the **PLAY LIST** button.
The Edit Playlist screen is displayed.

2 Press the ▲▼ buttons to select the title you want to edit from the Playlist, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Play**, and then select the **ENTER** button.
The playlist entries will be played.

4 Press the **STOP(** ⊙ **)** button to stop playing.
The screen returns to the Edit Playlist screen.

Renaming a Playlist Entry

Follow these instructions to rename a playlist entry, i.e. to edit the title of a playlist entry.

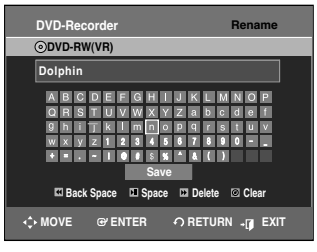
DVD-RAM DVD-RW
(VR mode)

1 With the unit in stop mode, press the **PLAY LIST** button.
The Edit Playlist screen is displayed.

2 Press the ▲▼ buttons to select the title you want to edit from the Playlist, and then press the **ENTER** or ► button.

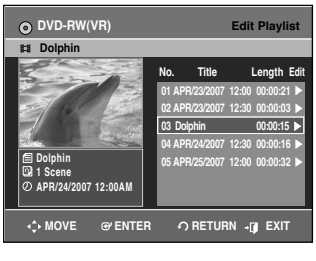
3 Press the ▲▼ buttons to select **Rename**, and then press the **ENTER** button.

4 Enter the desired characters using the ▲▼◄► buttons.



- Back Space: Deletes the character before the cursor.
- Space: Enters a blank and moves the cursor one forward (to the right).
- Delete: Deletes the characters at the cursor position.
- Clear: Deletes all the characters inputs.
- Save: Registers the characters inputs.
- The maximum number of characters that can be entered is 31. All 31 charadters can be displayed by pressing the INFO button.

5 Press the ▲▼◄► buttons to select **Save**, and then press the **ENTER** button.
The changed title name is displayed on the title item of the selected playlist entry.



Editing a Scene for the Playlist

Follow these instructions to edit scenes for a playlist

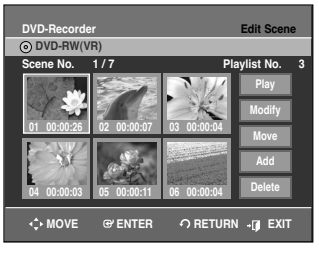
DVD-RAM DVD-RW

(VR mode)

1 With the unit in stop mode, press the **PLAY LIST** button.
The Edit Playlist screen is displayed.

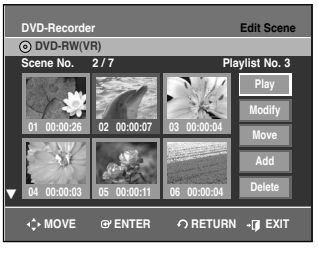
2 Press the ▲▼ buttons to select the title you want to edit from the Playlist, and then press the **ENTER** or ► button.

3 Press the ▲▼ buttons to select **Edit Scene**, and then press the **ENTER** button.
The Edit Scene screen is displayed.



Playing a Selected Scene

4 Press the ▲▼ ◄ ► buttons to select the scene you want to play, and then press the **ENTER** button.
The playlist entry to be played is selected.



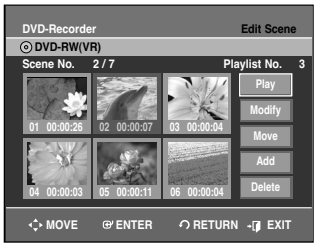
5 Press the **ENTER** button.
The selected scene is played.

• To stop scene play, press the **STOP(⊙)** button.

Modifying a Scene (Replacing a Scene)

Follow steps 1 to 3 of Editing a Scene for the playlist in page 66.

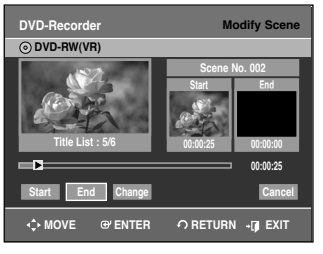
4 Press the ▲▼ ◄ ► buttons to select the scene you want to modify, and then press the **ENTER** button.



5 Press the ▲▼ buttons to select **Modify**, and then press the **ENTER** button.

6 Press the **ENTER** button at the start point of the scene.

- The image and starting point time are displayed on the Start window.
- Select the starting or ending point of the section you want to modify using the playback related buttons (⏯ , ⏪ , ⏩ , ⏮ , ⏭ , ⏪ , ⏩).

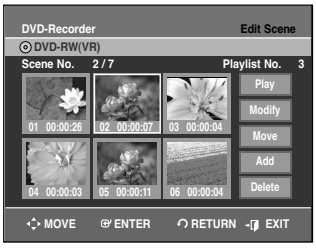


7 Press the **ENTER** button at the end point of the scene.

- The image and ending point time are displayed on the End window.

Editing

8 Press the ◀ ▶ buttons to select **Change,** and then press the **ENTER** button.

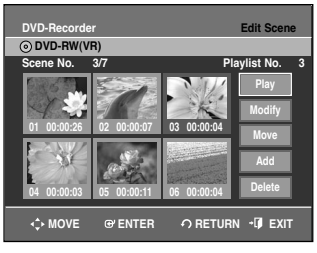


- The scene you want to modify is changed with the selected section.

Moving a Scene (Changing the Position of a Scene)

Follow steps 1 to 3 of Editing a Scene for the playlist in page 66.

4 Press the ▲▼ ◀ ▶ buttons to select the scene you want to move (change the position), and then press the **ENTER** button.

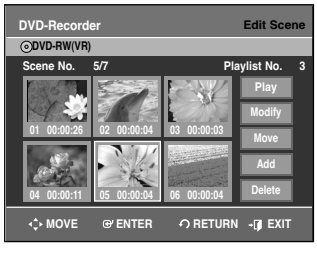


5 Press the ▲▼ buttons to select **Move**, then press the **ENTER** button.

- A yellow selection window is displayed on the scene to be moved.

6 Press the ▲▼ ◀ ▶ buttons to select the position to which you want to move the selected scene, and then select the **ENTER** button.

- The selected scene is moved to the selected position.



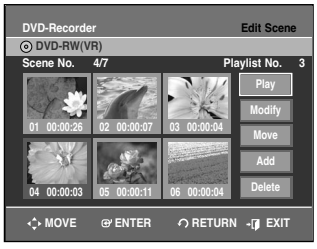
NOTE

- Depending on the disc type, the displayed screen may look different.

Adding a Scene

Follow steps 1to 3 of Editing a Scene for the playlist in page 66.

4 Press the ▲▼ ◀ ▶ buttons to select the scene that will have a new scene inserted before it, and then press the **ENTER** button.
A yellow selection window is displayed on the scene to be added as the new scene.

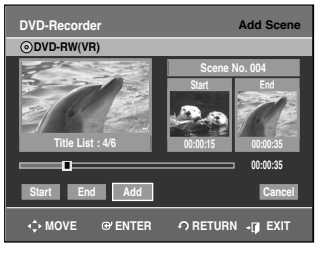


5 Press the ▲▼ buttons to select **Add**, then press the **ENTER** button.

6 Press the **ENTER** button at the starting point of the scene.

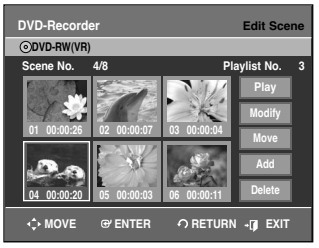
- The image and starting point time are displayed on the Start window.
- Select the end point of the section where you want to add the new scene using the playback related buttons (⏯, ⏪, ⏩, ⏮, ⏭, ⏪|, |⏩).

7 Press the **ENTER** button at the end point of the scene.



- The image and end point time are displayed in the **End** window.
- To cancel, press the ◀ ▶ buttons to select **Cancel** and then press the **ENTER** button.

8 Press the ◀ ▶ buttons to select **Add**, and then press the **ENTER** button.

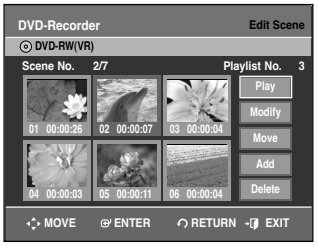


- The section you want to add is inserted prior to the scene selected in step 4.

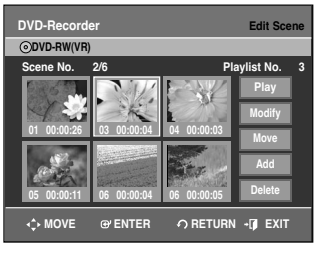
Deleting a Scene

Follow steps 1to 3 of Editing a Scene for the playlist in page 66.

4 Press the ▲▼ ◀ ▶ buttons to select the scene you want to delete, and then press the **ENTER** button.



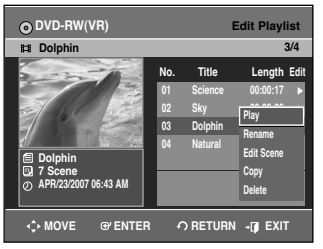
5 Press the ▲▼ buttons to select **Delete**, and then press the **ENTER** button.



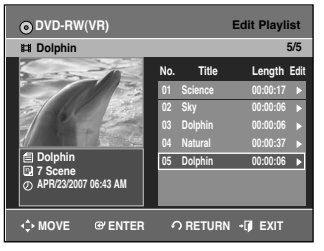
Copying a Playlist Entry to the Playlist

1 Press the **PLAY LIST** button.
The Edit Playlist screen is displayed.

2 Press the ▲▼ buttons to select the title you want to copy to the Playlist, and then press the **ENTER** or ▶ button.



3 Press the ▲▼ buttons to select **Copy**, and then press the **ENTER** button.
Playlist that has been selected will be copied.



NOTE

- The playlist can contain up to 99 playlist entries (titles).

Deleting a Playlist Entry from the Playlist

1 With the unit in Stop mode, press the **PLAY LIST** button.
The Edit Playlist screen is displayed.

2 Press the ▲▼ buttons to select the title you want to edit from the Playlist, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Delete**, and then press the **ENTER** button.

4 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.
After the delete operation is complete,
it will automatically return to the Edit Playlist screen.

Disc Manager

DVD-RAM DVD-RW DVD-R DVD+RW

Editing the Disc Name

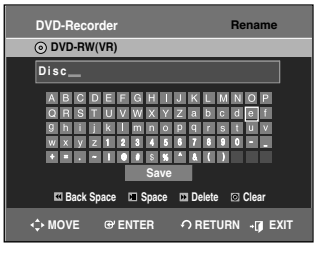
Follow these instructions to give a name to a disc.

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Disc Manager**, then press the **ENTER** or ▶ button.

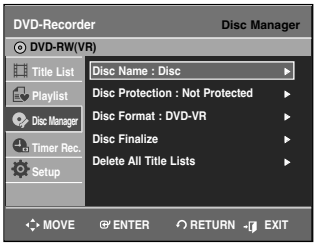
3 Press the ▲▼ buttons to select **Disc Name**, then press the **ENTER** or ▶ button.
The Rename screen is displayed.

4 Enter the desired characters using the ▲▼◀▶ buttons.



- Back Space: Deletes the character before the cursor.
- Space: Enters a blank and moves the cursor one forward(to the right).
- Delete: Deletes the characters at the cursor position.
- Clear: Deletes all the characters inputs.
- Save: Registers the characters inputs.
- The maximum number of characters that can be entered is 31.
  All 31 charadters can be displayed by pressing the INFO button.

5 Press the ▲▼◀▶ buttons to select **Save,** and then press the **ENTER** button.
A disc name is given to the disc.



NOTE

- You may need to disable disc protection before beginning editing.
- Depending on the kind of disc, the displayed screen may be different.

Disc Protection

Disc Protection allows you to protect your discs from being formatted or deleted due to unintended operations

DVD-RAM DVD-RW DVD-R

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Disc Manager**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Disc Protection**, then press the **ENTER** or ▶ button.

4 Press the ▲▼ buttons to select **Protected**, then press the **ENTER** button.

Formatting a Disc

Use these instructions to format a disc.
Disable disc protection before formatting.

DVD-RAM DVD-RW DVD+RW

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Disc Manager**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Disc Format**, and then press the **ENTER** or ▶ button.

DVD-RAM

- You will be prompted with the confirmation message “Do you want to format disc?”.

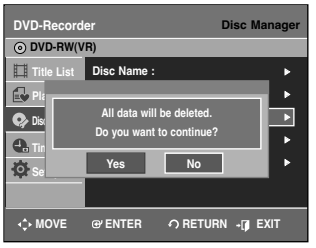
- If you select **Yes** using the ◀ ▶ buttons and press the **ENTER** button, you will be prompted with the confirmation message “All data will be deleted. Do you want to continue?”.

DVD-RW

- You will be prompted with the confirmation message “Choose the recording format for DVD-RW?”.

4 Press the ◀ ▶ buttons to select desired mode, then press the ENTER button.

- You will be prompted again with the message “All data will be deleted. Do you want to continue?”



5 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.
The disc is formatted.

DVD-VR and DVD-V modes are compatible withthe following disc types.

DISC	DVD-VR	DVD-V
	DVD-RAM	DVD-RW
	DVD-RW	DVD-R

NOTE

- Menu items may differ depending on the disc type.

Deleting All Title Lists

The disc protection should be disabled first.

DVD-RAM DVD-RW DVD-R

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Disc Manager**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Delete All Title Lists**, and then press the **ENTER** or ▶ button.

- When Protected Entry exists: The Delete All Title List function will not operate. If you want to delete a protected title, disable Protection for it on the Lock item. (See page 62)

4 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.
All title lists are deleted.

Finalizing a Disc

After you record titles onto a DVD-RW/DVD-R disc with your DVD recorder, it needs to be finalized before it can be played back on external devices.

DVD-RW DVD-R

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Disc Manager**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ buttons to select **Disc Finalize**, and then press the **ENTER** or ▶ button.

4 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.
You will be prompted again with the message “Disc will be finalized. Do you want to continue?”.

5 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.The disc is finalized.

NOTE

- Once a disc is finalized, you cannot delete entries from the record list.
- Once a DVD-R/DVD-RW (video mode)disc is finalized, it is playable in a standard DVD player.
- Depending on disc type, the displayed screen may appear slightly different.
- Finalizing time may be different depending on the amount of data recorded on the disc.
- Data on the disc will be damaged if the recorder is powered off during finalizing process.
- You can finalize automatically using EZ REC MODE.(See page 46)

Unfinalizing a Disc (V/VR mode)

DVD-RW

1 With the unit in Stop mode, press the **MENU** button on the remote control.

2 Press the ▲▼ buttons to select **Disc Manager**, and then press the **ENTER** or ▶ button.

3 Press the ▲▼ button to select **Disc Unfinalize**, and then press the **ENTER** or ▶ button.
You will be prompted with the message “Do you want to unfinalize disc?”.

4 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.

You will be prompted again with the message “Disc will be unfinalized. Do you want to continue?”.

5 Press the ◀ ▶ buttons to select **Yes**, and then press the **ENTER** button.The disc is unfinalized.

NOTE

- A DVD-RW can be finalized or unfinalized in Video mode.

	Finalize	Unfinalize
Mark	DVD-Video(RW)	DVD-RW(V)
Operation	Same as DVD-Video	Additional recording, protection and deletion are possible.

- A DVD-RW can be finalized or unfinalized in VR mode.

	Finalize	Unfinalize
Mark	DVD-RW(VR:F)	DVD-RW(VR)
Operation	Additional recording, deletion, editing, and protection are impossible.	Additional recording, deletion, editing, and protection are possible.

Additional Information

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Troubleshooting

If your product malfunctions, go through the checkpoints below before contacting a Samsung authorized service center.

Power

The input is displayed for a while when the power is turned on.

Checkpoint 1 The DVD recorder requires some time to initialize and the input will be displayed for approx. 10 seconds after it is turned on.

Recording

Cannot record TV programs.

Checkpoint 1 Check whether the power cord is securely plugged into the power outlet.

Checkpoint 2 Check the free space on your DVD-RAM/DVD-RW/DVD-R discs.

I pressed the **REC** button but there is no response.

Checkpoint 1 Recording is possible for DVD-RAM/DVD-RW/DVD-R discs only. If a program is copy protected, it cannot be recorded.

Playback

Cannot play the disc.

Checkpoint 1 Check whether the disc is inserted correctly with the label facing up.

Checkpoint 2 Check the regional code of the DVD disc.

Checkpoint 3 This DVD recorder cannot play some types of discs. (See pages 5, 48.)

⊘ icon appears on the screen.

Checkpoint 1 You cannot use this operation or function due to one of the following reasons:
(1) Your DVD disc restricts it.
(2) Your DVD disc does not support this feature (for example: angles)
(3) The feature is not available at the moment.
(4) You've requested a title, chapter, or scan time that is out of range.

Play mode settings are different from the settings configured in the Settings menu.

Checkpoint 1 The disc does not support all selected functions. In this case, some settings configured in the settings menu may not work properly.

Cannot change the aspect ratio.

Checkpoint 1 The aspect ratio is fixed for DVD discs. (See page 34)

The angle operation does not work while playing a DVD disc.

Checkpoint 1 The angle operation is available only when the disc contains images captured from different angles.

The selected audio and/or subtitle language is not played.

Checkpoint 1 Audio and subtitle languages are disc-specific. Only the sound and subtitle languages contained on the DVD disc are available and displayed in the disc menu.

Video

The disc revolves, but no image or bad quality images are displayed.

Checkpoint 1 Check whether there is damage to or any foreign material on your disc.

Checkpoint 2 Some low quality discs may not play properly.

Checkpoint 3 If scenes change from dark to bright suddenly, the screen may shake vertically temporarily. This dose not mean that the unit is defective.

Sound

No sound.

Checkpoint 1 Are you watching a program in scan mode?
If you are playing a program at a speed other than normal and fast1 speed, the sound will not be heard.

Checkpoint 2 Check the connections and settings.

Checkpoint 3 Check whether the disc is damaged. Clean the disc, if necessary.

Checkpoint 4 Check whether the disc is inserted correctly with the label facing up.

No audio output.

Checkpoint 1 Check whether you have selected the correct digital output options in the Audio Output Options menu. (See page 33)

Timer Recording

Timer lamp flickers.

Checkpoint 1 — Check if there is enough space in the disc for recording.

Checkpoint 2 — Check whether the current disc is recordable or not.
Make sure to check before the start time of recording.

Timer recording does not work properly.

Checkpoint 1 — Re-check the recording time and the end time settings again.

Checkpoint 2 — Recording will be cancelled, if the power is disconnected due to a power failure or other similar reason, while recording.

Remote Control Unit

The remote control doesn't work.

Checkpoint 1 — Point the remote control at the remote control sensor on your DVD recorder. Allow for proper distance. Remove obstacles between your DVD recorder and the remote control.

Checkpoint 2 — Check whether the batteries are empty.

Other

I forgot my password for parental supervision.

Checkpoint 1 — Press the CH (⌄) and (⌃) buttons on your DVD recorder simultaneously when the power is on. All settings including the password will revert to the factory settings. Do not use this unless absolutely necessary.
(Note that this function is possible only when no disc is inserted.)

Is it possible to change a subtitle and an audio signal on a recorded disc?

Checkpoint 1 — A recorded disc is played with only the subtitle and the audio signal which were selected during recording.

Other problems

Checkpoint 1 — Read the table of contents and then find and read the section describing your problem, and follow the instructions given.

Checkpoint 2 — Turn your DVD recorder off and on.

Checkpoint 3 — If the problem still persists, contact a nearby Samsung service center.

Error Message Solutions

Before contacting a Samsung authorized service center, perform the following simple checks.

Error Message	Solution / Explanation
You cannot record a copy protected movie.	◆ You can't record the video since it is protected by copyright.
You cannot record. This disc is protected.	◆ The disc you are using is protected.To record on this disc or use this function, disable the disc protection function.Refer to page 69.
This disc cannot be formatted (the disc is protected).	
This disc cannot be renamed (the disc is protected).	
The disc cannot be finalized (the disc is protected).	
This [Menu] is not available (the disc is protected).	
The disc cannot be played, Please check the regional code of the disc.	◆ The disc does not match the regional code for your area and cannot be played on this device.
This disc cannot be formatted. Please check the disc.	◆ Make sure there are no scratches or dirt on the disc.
You could not format the disc because of error detection.	
You could not finalize the disc because of error detection.	
You could not unfinalize the disc because of error detection.	
The disc cannot be played, Please check the TV system.	◆ PAL format discs cannot be played on this unit.
The disc can be neither played nor recorded.	◆ Make sure there are no scratches or dirt on the disc.
The disc cannot be played, Please check the disc.	
If the disc has invalid information, no more titles can be recorded. Please format the disc beforehand.	◆ You can't use the disc because it contains errors from previous recordings. Use the disc after formatting.

Error Message Solutions

Error Message	Solution / Explanation
Error is detected on the disc.	◆ You can't use the disc because it contains errors from previous recordings. Use the disc after formatting.
System error is found. Please try it again after turning off the power.	◆ When operating, errors happen. Turn off the device. (To turn off, press and hold the power button on the front of the device for 10 seconds.) After turning off, press the Open button and remove the disc from the device.
The DV device is not connected.	◆ Make sure the DV device is connected properly to the DV connection Jack. If it is connected properly, turn it off and on once again.

If you are unable to solve the problem after reading the above instructions, note:

◆ The model and serial number on the rear of your DVD Recorder

◆ The warranty information

◆ A clear description of the problem

Then contact your nearest SAMSUNG authorized service center.

Specifications

General	Power requirements	AC 110-240V, 50/60Hz
	Power consumption	19 Watts
	Weight	5.1 lb
	Dimensions	16.9 in(W) x 8.5 in(D) x 1.9 in(H)
	Operating temp.	+41°F to +95°F
	Other conditions	Keep level when operating. Less than 75% operating humidity
Input	Video (1,2)	1.0 V p-p at 75Ω load, sync negative
		S-Video input (Y: 1.0Vp-p, C: 0.286Vp-p at 75Ω load)
	Audio(1,2)	Max.Audio Input Level : 2Vrms
	DV Input	IEEE 1394(4p) compatible jack
	Receivable Channels	Regular TV broadcasting: VHF (2~13), UHF (14~69)
		Cable TV broadcasting: 1~125
Output	Audio	Analog output jacks 1, 2
		Optical/Coaxial digital audio output
		Full scale Analog output level : 2Vrms
	Video	Video output jack 1
		S-Video output 1 (Y:1.0Vp-p, C:0.286Vp-p at 75Ω load)
		Component output 1 (Y: 1.0Vp-p, Pb: 0.70Vp-p, Pr: 0.70Vp-p at 75Ω load)
Recording	Picture Compression format	MPEG-II
	Audio Compression format	Dolby Digital 2ch/256kbps
	Recording Quality	XP (about 8 Mbps), SP (about 4 Mbps), LP (about 2 Mbps), EP (about 1.2 Mbps or about 0.8 Mbps)
	Audio Frequency Response	20 Hz ~ 20 kHz

Audio Output

For DVD discs, audio signals recorded at 96kHz sampling frequency are converted and output at 48kHz.

Disc Type	DVD	AUDIO CD(CDDA)
Analog Audio Output	48 / 96kHz	44.1kHz
Digital Audio Output	48kHz	44.1kHz

Contact SAMSUNG WORLD WIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

Region	Country	Customer Care Center ☎	Web Site
North America	CANADA	1-800-SAMSUNG (7267864)	www.samsung.com/ca
	MEXICO	01-800-SAMSUNG (7267864)	www.samsung.com/mx
	U.S.A	1-800-SAMSUNG (7267864)	www.samsung.com
Latin America	ARGENTINE	0800-333-3733	www.samsung.com/ar
	BRAZIL	0800-124-421 4004-0000	www.samsung.com/br
	CHILE	800-726-7864(SAMSUNG)	www.samsung.com/cl
	COSTA RICA	0-800-507-7267	www.samsung.com/latin
	ECUADOR	1-800-10-7267	www.samsung.com/latin
	EL SALVADOR	800-6225	www.samsung.com/latin
	GUATEMALA	1-800-299-0013	www.samsung.com/latin
	JAMAICA	1-800-234-7267	www.samsung.com/latin
	PANAMA	800-7267	www.samsung.com/latin
	PUERTO RICO	1-800-682-3180	www.samsung.com/latin
	REP. DOMINICA	1-800-751-2676	www.samsung.com/latin
	TRINIDAD & TOBAGO	1-800-7267-864	www.samsung.com/latin
	VENEZUELA	0-800-100-5303	www.samsung.com/latin
	COLOMBIA	01-8000112112	www.samsung.com.co
Europe	BELGIUM	02 201 2418	www.samsung.com/be
	CZECH REPUBLIC	844 000 844 Distributor pro Českou republiku : Samsung Zrt., česka organizační složka Vyskočilova 4, 14000 Praha 4	www.samsung.com/cz
	DENMARK	38 322 887	www.samsung.com/dk
	FINLAND	09 693 79 554	www.samsung.com/fi
	FRANCE	3260 SAMSUNG or 08 25 08 65 65 (€0,15/Min)	www.samsung.com/fr
	GERMANY	01805 - 121213 (€0,14/Min)	www.samsung.de
	HUNGARY	06-80-SAMSUNG (7267864)	www.samsung.com/hu
	ITALIA	800-SAMSUNG (7267864)	www.samsung.com/it
	LUXEMBURG	0032 (0)2 201 24 18	www.samsung.lu
	NETHERLANDS	0900 20 200 88 (€0.10/Min)	www.samsung.com/nl
	NORWAY	231 627 22	www.samsung.com/no
	POLAND	0 801 801 881	www.samsung.com/pl
	PORTUGAL	80 8 200 128	www.samsung.com/pt
	SLOVAKIA	0800-SAMSUNG (726786)	www.samsung.com/sk
	SPAIN	902 10 11 30	www.samsung.com/es
	SWEDEN	08 585 367 87	www.samsung.com/se
	U.K	0870 SAMSUNG (7267864)	www.samsung.com/uk
	Republic of Ireland	0818 717 100	www.samsung.com/uk
	Switzerland	0800-7267864	www.samsung.com/ch
CIS	RUSSIA	8-800-200-0400	www.samsung.ru
	KAZAHSTAN	8-800-080-1188	www.samsung.kz
	UZBEKISTAN	8-800-120-0400	www.samsung.uz
	UKRAINE	8-800-502-0000	www.samsung.com/ur
	LITHUANIA	8-800-77777	www.samsung.lt
	LATVIA	800-7267	ww.samsung.com/lv/index.htm
	ESTONIA	800-7267	www.samsung.ee
Asia Pacific	AUSTRALIA	1300 362 603	www.samsung.com/au
	CHINA	800-810-5858, 010- 6475 1880	www.samsung.com.cn
	HONG KONG	3698 - 4698	www.samsung.com/hk
	INDIA	3030 8282 1800 110011	www.samsung.com/in
	INDONESIA	0800-112-8888	www.samsung.com/id
	MALAYSIA	1800-88-9999	www.samsung.com/my
	PHILIPPINES	1800-10-SAMSUNG (7267864)	www.samsung.com/ph
	SINGAPORE	1800-SAMSUNG (7267864)	www.samsung.com/sg
	THAILAND	1800-29-3232 02-689-3232	www.samsung.com/th
	TAIWAN	0800-329-999	www.samsung.com/tw
	VIETNAM	1 800 588 889	www.samsung.com/vn
Middle East & Africa	SOUTH AFRICA	0860 7267864 (SAMSUNG)	www.samsung.com/za
	U.A.E	800SAMSUNG (7267864) 8000-4726	www.samsung.com/mea

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